Notices

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Microsoft Windows is a registered trademark of the Microsoft Corporation.

Product names mentioned herein are for identification purposes only, and may be trademarks and/or registered trademarks of their respective companies.

Macrovision Statement

If your computer has a DVD drive and an analog TV Out port, the following paragraph applies:

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

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Important Safety Information

Safety Instructions

Your system is designed and tested to meet the latest standards for safety of information technology equipment. However, to ensure safe use of this product, it is important that the safety instructions marked on the product and in the documentation are followed.

Always follow these instructions to help guard against personal injury and damage to your system.

Setting Up your System

- Read and follow all instructions marked on the product and in the documentation before you operate your system. Retain all safety and operating instructions for future use.
- Do not use this product near water or a heat source such as a radiator.
- Set up the system on a stable work surface.
- The product should be operated only with the type of power source indicated on the rating label.
- Ensure that the electrical outlet you are using to power your equipment is easily accessible in case of fire or short circuit.
- If your computer has a voltage selector switch, make sure that the switch is in the proper position for your area.
- Openings in the computer case are provided for ventilation. Do not block or cover these openings. Make sure you provide adequate space, at least 6 inches (15 cm), around the system for ventilation when you set up your work area. Never insert objects of any kind into the computer ventilation openings.
- Ensure that the fan vents on the bottom of the casing are clear at all times. Do not place the computer on a soft surface, doing so will block the bottom vents.
- If you use an extension cord with this system, make sure that the total ampere rating on the products plugged into the extension cord does not exceed the extension cord ampere rating.

Care During Use

- Do not walk on the power cord or allow anything to rest on it.
- Do not spill anything on the system. The best way to avoid spills is to not eat or drink near your system.
- Some products have a replaceable CMOS battery on the system board. There is a danger of explosion if the CMOS battery is replaced incorrectly. Replace the battery with the same or equivalent type recommended by the manufacturer. Dispose of batteries according to the manufacturer's instructions. If the CMOS battery requires replacement insure that a qualified technician performs the task
- When the computer is turned off, a small amount of electrical current still flows through the computer. To avoid electrical shock, always unplug all power cables, remove the battery and modem cables from the wall outlets before cleaning the system.
- Unplug the system from the wall outlet and refer servicing to qualified personnel if:
  - The power cord or plug is damaged.
  - Liquid has been spilled into the system.
  - The system does not operate properly when the operating instructions are followed.
  - The system was dropped or the casing is damaged.
  - The system performance changes.

The Instruction On Safety Operation of NotePC

1. At installation and operation of devices it is necessary to carry out requirements of the user's guide.
2. Devices can be used only with the equipment specified in the technical specifications of the devices.
3. At operation of devices it is necessary to carry out the basic requirements
4. At occurrence of malfunctions in the device (a smell of burnt isolation, a smoke, etc.), it is necessary to disconnect the equipment from the power supply and to not to inserted back before reparation.
5. Service and reparation of devices should be carried out by experts of the manufacturer.

Technical director of the service center

Replacement Parts and Accessories

Use only replacement parts and accessories recommended by manufacturer.

To reduce the risk of fire, use only No. 26 AWG or larger telecommunications line cord.

Do not use this product in areas classified as hazardous. Such areas include patient care areas of medical and dental facilities, oxygen rich environments, or industrial areas.

Battery Disposal

Do not put rechargeable batteries or products powered by non-removable rechargeable batteries in the garbage.

Contact the Samsung Helpline for information on how to dispose of batteries that you cannot use or recharge any longer.

Follow all local regulations when disposing of old batteries.

Laser Safety

All systems equipped with CD or DVD drives comply with the appropriate safety standards, including IEC 825. The laser devices in these components are classified as "Class 1 Laser Products" under a US Department of Health and Human Services (DHHS) Radiation Performance Standard. Should the unit ever need servicing, contact an authorized service location.

Laser Safety Note:
Use of controls or adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure. To prevent exposure to laser beams, do not try to open the enclosure of a CD or DVD drive.

Power Cord Requirements

The power cord set (wall plug, cable and AC adapter plug) you received with your computer meets the requirements for use in the country where you purchased your equipment.

Power cord sets for use in other countries must meet the requirements of the country where you use the computer. For more information on power cord set requirements, contact your authorized dealer, reseller, or service provider.

General Requirements

The requirements listed below are applicable to all countries:

- The length of the power cord set must be at least 6.00 feet (1.8m) and a maximum of 9.75 feet (3.0m).
- All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country where the power cord set will be used.
- The power cord set must have a minimum current capacity of 7 A and a nominal voltage rating of 125 or 250 volts AC, as required by each country's power system.
- The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C7 connector, for mating with appliance inlet on the computer.

Regulatory Compliance Statements

Wireless Guidance

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz Band, may be present (embedded) in your notebook system. The following section is a general overview of considerations while operating a wireless device.

Additional limitations, cautions, and concerns for specific countries are listed in the specific country sections (or country group sections). The wireless devices in your system are only qualified for use in the countries identified by the Radio Approval Marks on the system rating label. If the country you will be using the wireless device in, is not listed, please contact your local Radio Approval agency for requirements. Wireless devices are closely regulated and use may not be allowed.

The power output of the wireless device or devices that may be embedded in your notebook is well below the RF exposure limits as known at this time. Because the wireless devices (which may be embedded into your notebook) emit less energy than is allowed in radio frequency safety standards and recommendations, manufacturer believes these devices are safe for use. Regardless of the power levels, care should be taken to minimize human contact during normal operation.

As a general guideline, a separation of 20 cm (8 inches) between the wireless device and the body, for use of a wireless device near the body (this does not include extremities) is typical. This device should be used more than 20 cm (8 inches) from the body when wireless devices are on and transmitting.

This transmitter must not be collocated or operate in conjunction with any other antenna or transmitter.

Some circumstances require restrictions on wireless devices. Examples of common restrictions are listed below:

Radio frequency wireless communication can interfere with equipment on commercial aircraft. Current aviation regulations require wireless devices to be turned off while traveling in an airplane. 802.11B (also known as wireless Ethernet or Wifi) and Bluetooth communication devices are examples of devices that provide wireless communication.

In environments where the risk of interference to other devices or services is harmful or perceived as harmful, the option to use a wireless device may be restricted or eliminated. Airports, Hospitals, and Oxygen or flammable gas laden atmospheres are limited examples where use of wireless devices may be restricted or eliminated. When in environments where you are uncertain of the sanction to use wireless devices, ask the applicable authority for authorization prior to use or turning on the wireless device.

Every country has different restrictions on the use of wireless devices. Since your system is equipped with a wireless device, when traveling between countries with your system, check with the local Radio Approval authorities prior to any move or trip for any restrictions on the use of a wireless device in the destination country.

If your system came equipped with an internal embedded wireless device, do not operate the wireless device unless all covers and shields are in place and the system is fully assembled.

Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Please contact manufacturer for service.

Only use drivers approved for the country in which the device will be used. See the manufacturer System Restoration Kit, or contact manufacturer Technical Support for additional information.

United States of America

USA and Canada Safety Requirements and Notices

Do not touch or move antenna while the unit is transmitting or receiving.

Do not hold any component containing the radio such that the antenna is very close or touching any exposed parts of the body, especially the face or eyes, while transmitting.

Do not operate the radio or attempt to transmit data unless the antenna is connected; if not, the radio may be damaged.

Use in specific environments:

The use of wireless devices in hazardous locations is limited by the constraints posed by the safety directors of such environments.

The use of wireless devices on airplanes is governed by the Federal Aviation Administration (FAA).

The use of wireless devices in hospitals is restricted to the limits set forth by each hospital.

Antenna use:

In order to comply with FCC RF exposure limits, low gain integrated antennas should be located at a minimum distance of 20 cm (8 inches) or more from the body of all persons.

High-gain, wall-mount, or mast-mount antennas are designed to be professionally installed and should be located at a minimum distance of 30 cm (12 inches) or more from the body of all persons. Please contact your professional installer, VAR, or antenna manufacturer for proper installation requirements.

Explosive Device Proximity Warning

Do not operate a portable transmitter (such as a wireless network device) near unshielded

blasting caps or in an explosive environment unless the device has been modified to be qualified for such use.

Antenna Warning

To comply with the FCC and ANSI C95.1 RF exposure limits, it is recommended for Intel® PRO/Wireless Network Connections installed in a desktop or portable computer, that the antenna for this device be installed so as to provide a separation distance of al least 20 cm (8 inches) from all persons and that the antenna must not be co-located or operating in conjunction with any other antenna or radio transmitter. It is

recommended that the user limit exposure time if the antenna is positioned closer than 20cm (8 inches).

Use On Aircraft Caution

Regulations of the FCC and FAA prohibit airborne operation of radio-frequency wireless devices because their signals could interfere with critical aircraft instruments.

Other Wireless Devices

Safety Notices for Other Devices in the Wireless Network: Refer to the documentation supplied with wireless Ethernet adapters or other devices in the wireless network.

The Part 15 radio device operates on a non-interference basis with other devices operating at this frequency. Any changes or modification to said product not expressly approved by Intel could void the user's authority to operate this device.

Unintentional Emitter per FCC Part 15

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generate uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions may cause harmful interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet helpful: “Something About Interference.” This is available at FCC local regional offices. Our company is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by our company. The correction will be the responsibility of the user. Use only shielded data cables with this system.

Intentional emitter per FCC Part 15

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz Band, may be present (embedded) in your notebook system. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in the United States of America if an FCC ID number is on the system label.

The FCC has set a general guideline of 20 cm (8 inches) separation between the device and the body, for use of a wireless device near the body (this does not include extremities). This device should be used more than 20 cm (8 inches) from the body when wireless devices are on. The power output of the wireless device (or devices), which may be embedded in your notebook, is well below the RF exposure limits as set by the FCC.

This transmitter must not be collocated or operate in conjunction with any other antenna or transmitter.

Operation of this device is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Contact manufacturer for service.

FCC Statement for Wireless LAN use:
“While installing and operating this transmitter and antenna combination the radio frequency exposure limit of 1mW/cm2 may be exceeded at distances close to the antenna installed. Therefore, the user must maintain a minimum distance of 20cm from the antenna at all times. This device can not be colocated with another transmitter and transmitting antenna.”

FCC Part 68

This equipment compiles with part of the FCC rules. On the back of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

This equipment uses the following USOC jacks : RJ11C

An FCC compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or promises wiring using a compatible modular jack which is Part 68 compliant. See Installation Instructions for details.

The REN is used to determine the quantity of devices which may be connected to telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by total RENs, contact the local telephone company to determine the maximum REN for the calling area.

If the terminal equipment causes harm to the telephone network, the Telephone Company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advanced notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment (Modem) for repair or warranty information, please contact your local distributor. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

The user must use the accessories and cables supplied by the manufacturer to get optimum performance from the product.

No repairs may be done by the customer.

This equipment cannot be used on public coin phone service provided by the telephone company. Connection to party line service is subject to state tariffs.

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device, including fax machines, to send any message unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and

an identification of the business or other entity, or other individual sending the message and the telephone number of the sending machine or such business, other entity, or individual. (The telephone number provided may not be any number for which charges exceed local or long-distance transmission charges.)

In order to program this information into your fax machine, refer to your communications software user manual.

Canada

Unintentional Emitter per ICES-003

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limitesapplicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par Industrie Canada.

Intentional Emitter per RSS 210

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz Band, may be present (embedded) in your notebook system. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in Canada if an Industry Canada ID number is on the system label.

As a general guideline, a separation of 20 cm (8 inches) between the wireless device and the body, for use of a wireless device near the body (this does not include extremities) is typical. This device should be used more than 20 cm (8 inches) from the body when wireless devices are on.

The power output of the wireless device (or devices), which may be embedded in your notebook, is well below the RF exposure limits as set by Industry Canada.

This transmitter must not be collocated or operate in conjunction with any other antenna or transmitter.

Operation of this device is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

To prevent radio interference to licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Contact manufacturer for service.

Telecommunications per DOC notice (for products fitted with an IC-compliant modem)

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operation, and safety requirements. The Department does not guarantee the equipment will operate to the users' satisfaction.

Before installing this equipment, users should make sure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the inside wiring associated with a single-line individual service may be extended by means of a certified connector assembly. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should make sure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

To avoid electrical shock or equipment malfunction do not attempt to make electrical ground connections by yourself. Contact the appropriate inspection authority or an electrician, as appropriate.

The **Ringer Equivalence Number** (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

European Union

European Union CE Marking and Compliance Notices

Products intended for sale within the European Union are marked with the Conformité Européene (CE) Marking, which indicates compliance with the applicable Directives and European standards and amendments identified below. This equipment also carries the Class 2 identifier.

The following information is only applicable to systems labeled with the CE mark CE.

European Directives

This Information Technology Equipment has been tested and found to comply with the following European directives:

- EMC Directive 89/336/EEC with amending directives 92/31/EEC & 93/68/EEC as per
  - EN 55022 Class B
  - EN 61000-3-2
  - EN 61000-3-3
  - EN 55024
- Low Voltage Directive (Safety) 73/23/EEC as per EN 60950(A1/A2/A3/A4/A11)
- Radio and Telecom Terminal Equipment Directive 199/5/EC as per
  - CTR21 (if fitted with a modem device)
  - ETS 300 328 (if fitted with a 2.4 GHz band embedded wireless device)
  - ETS 301 489-1 (if fitted with a 2.4 GHz band embedded wireless device)
  - ETS 301 489-17 (if fitted with a 2.4 GHz band embedded wireless device)

European Radio Approval Information (for products fitted with EU-approved radio devices)

This Product is a Notebook computer; low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz band, may be present (embedded) in your notebook system which is intended for home or office use. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in the European Union or associated areas if a CE mark CE with a Notified Body Registration Number and the Alert Symbol is on the system label.

The power output of the wireless device or devices that may be embedded in you notebook is well below the RF exposure limits as set by the European Commission through the R&TTE directive.

See 802.11b and 802.11g restrictions for specific countries or regions within countries under the heading “European Economic Area Restrictions” below.

Translated Statements of Compliance

This product follows the provisions of the European Directive 1999/5/EC.

European Economic Area Restrictions

Local Restriction of 802.11b/802.11g Radio Usage

[Note to integrator: The following statements on local restrictions must be published in all end-user documentation provided with the system or product incorporating the Intel PRO/Wireless 2200BG Network Connection product.]

Due to the fact that the frequencies used by 802.11b/802.11g wireless LAN devices may not yet be harmonized in all countries, 802.11b/802.11g products are designed for use only in specific countries or regions, and are not allowed to be operated in countries or regions other than those of designated use.

As a user of these products, you are responsible for ensuring that the products are used only in the countries or regions for which they were intended and for verifying that they are configured with the correct selection of frequency and channel for the country or region of use. Any deviation from permissible settings and restrictions in the country or region of use could be an infringement of local law and may be punished as such.

The European variant is intended for use throughout the European Economic Area. However, authorization for use is further restricted in particular countries or regions within countries, as follows:

General

European standards dictate maximum radiated transmit power of 100 mW effective isotropic radiated power (EIRP) and the frequency range 2400 – 2483.5 MHz.

Belgium

The product may be used outdoors, but for outdoor transmissions over a distance of 300m or more, a license from the BIPT is required.

This restriction should be indicated in the manual as follows:

Dans le cas d'une utilisation privée, à l'extérieur d'un bâtiment, au-dessus d'un espace public, aucun enregistrement n'est nécessaire pour une distance de moins de 300m. Pour une distance supérieure à 300m un enregistrement auprès de l'IBPT est requise. Pour une utilisation publique à l'extérieur de bâtiments, une licence de l'IBPT est requise. Pour les enregistrements et licences, veuillez contacter l'IBPT.

France

For Metropolitan departments:

2.400 - 2.4835 GHz for indoor use.

2.400 -2.454 GHz (channels 1 to 7) for outdoor use.

For Guadeloupe, Martinique, St Pierre et Miquelon, Mayotte:

2.400 - 2.4835 GHz for indoor and outdoor use.

For Reunion, Guyane:

2.400 - 2.4835 GHz for indoor use.

2.420 - 2.4835 GHz for outdoor use (channels 5 to 13)

European Telecommunication Information (for products fitted with EU-approved modems)

Marking by the symbol CE indicates compliance of this equipment to the Radio and Telecom Terminal Equipment Directive 1999/5/EC. Such marking is indicative that this equipment meets or exceeds the following technical standards:

CTR 21 – Attachment requirements for pan-European approval for connection to the analogue Public Switched Telephone Networks (PSTNs) of TE (excluding TE supporting voice telephony services) in which network addressing, if provided, is by means of Dual Tone Multi-Frequency (DTMF) signaling.

Although this equipment can use either loop disconnect (pulse) or DTMF (tone) signaling, only the performance of the DTMF signaling is subject to regulatory requirements for correct operation. It is therefore strongly recommended that the equipment is set to use DTMF signaling for access to

public or private emergency services. DTMF signaling also provides faster call setup.

This equipment has been approved to Council Decision 98/482/EEC—“CTR 21” for Pan-European single terminal connection to the Public Switched Telephone Network (PSTN).

However, due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN termination point. In the event of problems, you should contact manufacturer Technical Support.

WEEE SYMBOL INFORMATION

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

Using Your Documentation

Congratulations on your purchase of a notebook computer with the Windows® XP operating system. Whether you are new to using a portable computer or are an experienced user, this user's manual can help you get the most from your computer.

Manual Documentation Conventions

Information Icons

Three icons and their associated messages appear in this manual. The information icons are placed before the step/information they apply to:

Warning:
Indicates the possibility of personal injury.

Caution:
Warns you of possible damage to equipment or data.

Note:
Informs you of special circumstances.

Technical Information:
Informs you of special requirements or limitations for use of item(s).

Keyboard Conventions

Keys that you need to press to perform certain functions are displayed in the manual in brackets. For example:

<Ctrl> indicates the control key (**Ctrl** on the keyboard).

If you need to press two keys at the same time, the key names are shown joined by a plus sign. For example:

<Fn+F8> means that you should press the **Fn** key and hold it and then press the **F8** key.

CD-ROM Device Naming Convention

In many installation programs you will have to get a program from the CD-ROM device. The program installation sequence assumes that the CD is drive d:\, however this is not always the case. The name of the CD-ROM drive is the letter following the letter assigned to your last HDD. For instance, if you have one HDD with two partitions, the HDD is drives C: and D: and the CD-ROM drive is then drive E.

Touchpad Conventions

You may be asked to click or double-click on items on the display screen. As a general note the touchpad actions act much in the same way as a wheel mouse, any differences are explained fully.

The object that needs to be clicked upon will be displayed in **Bold** text or shown in a small figure such as the **"Start Button"** shown on the right =>.

Table 1. Touchpad Click Conventions

Action	Process
Click	Depress the touchpad left button and release
Double-click	Quickly click the left touchpad button two times

Windows Conventions:
Almost all "Windows" programs will display the name/function of a button or icon if you place the touchpad pointer on the item you want information about.

Software User Documentation

Your computer is shipped from the factory with several software programs installed. The software may include its own online or printed documentation. Refer to the documentation or the Help options in the software for more information.

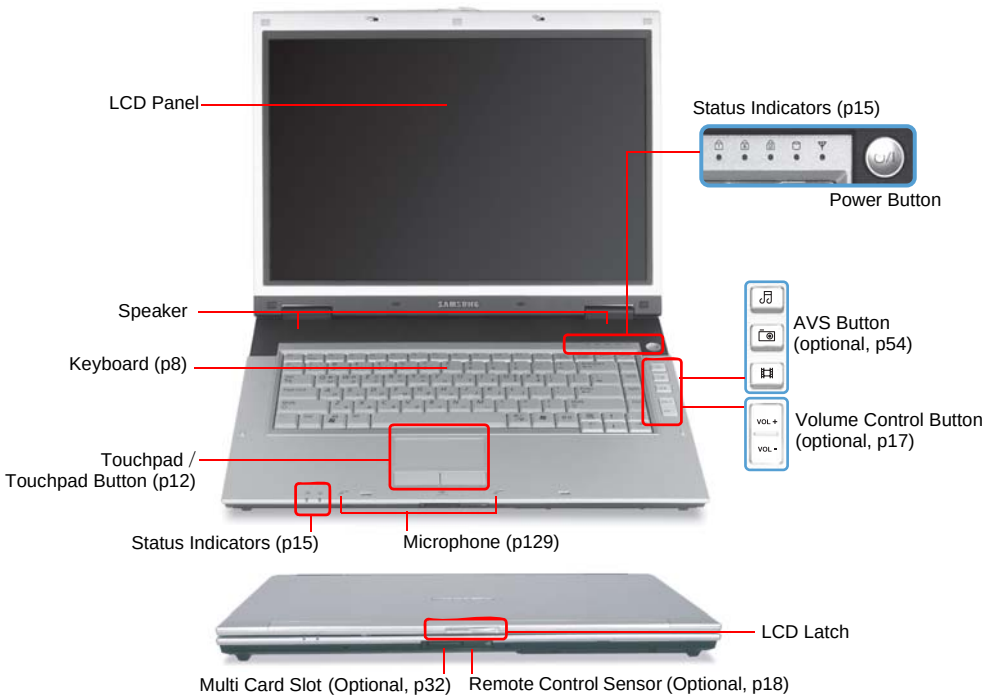
The figures and illustrations in this manual may not be identical to those on your system.

General Icon Note:
Some of the Icons used in Windows XP may be placed on the taskbar by selecting **(ex: Place the volume icon in the taskbar)** in the properties dialog box.

Getting Started

Introducing Your Computer

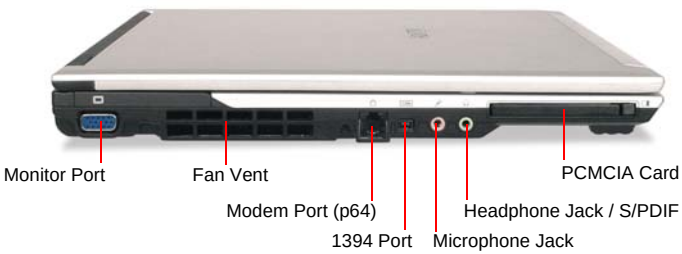
Front View



AVS Button (Optional)
For models with the AVS button (, ,), pressing this button will launch the Music, Photo and Movie Stations of AVStation. (p54)

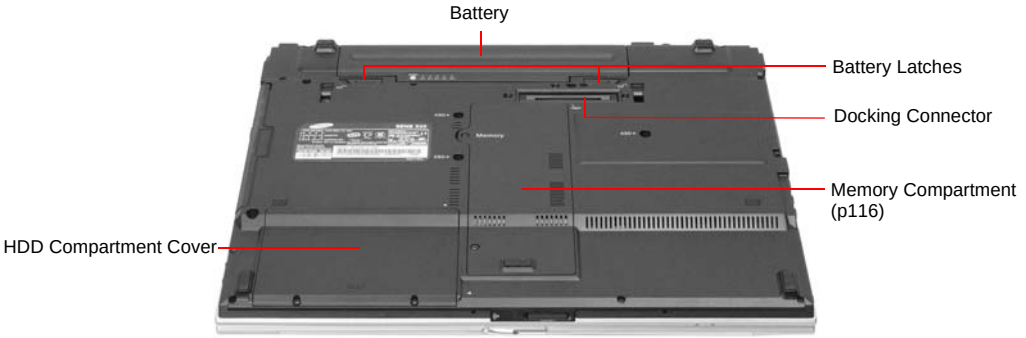
Right View

Left View



Back View

Bottom View



Removing or disassembling the hard disk drive will void your warranty. To replace the hard disk drive, please contact your nearest Samsung Service Centre.

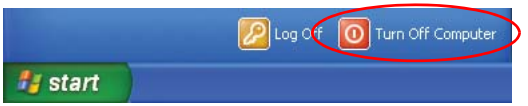
Turning the Computer On and Off

To turn on the computer

1. Insert the battery and connect the AC adapter according to the Installation Guide.
2. Slide the LCD latch to the right and open the LCD panel.
3. Press the power button.

To turn off the computer

1. Click the **start** button ( ) on the taskbar.
2. Click **Turn Off Computer**.



3. Click **Turn Off**.

If the computer has not turned off properly due to a system error, press **<Ctrl>**+**<Alt>**+**<Delete>**. When [Windows Task Manager] dialog box appears, click **Shut Down > Turn Off** to turn off the computer. Your unsaved work may be lost/damaged.

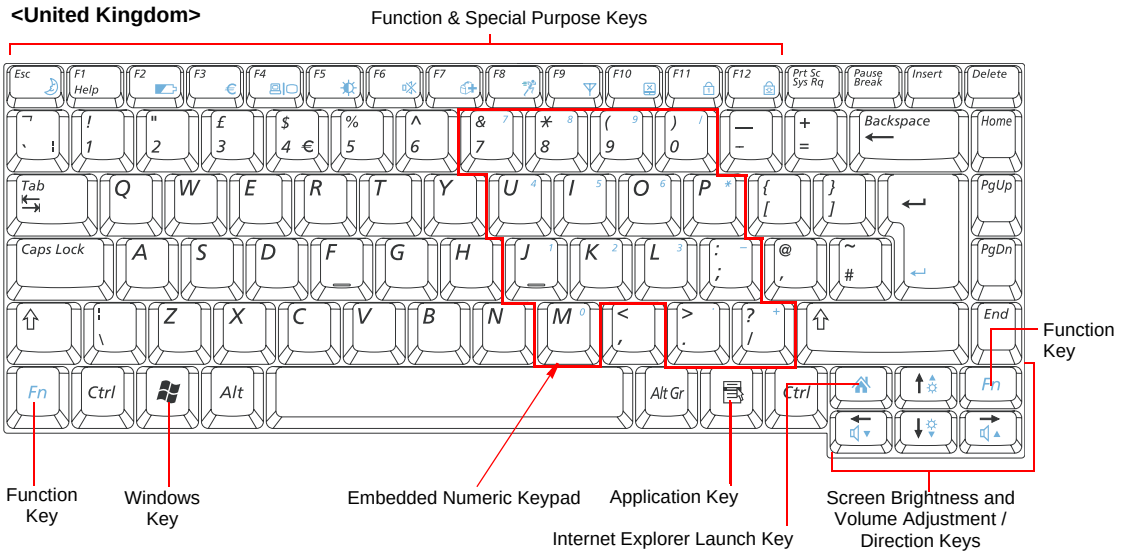
If **<Ctrl>**+**<Alt>**+**<Delete>** keys do not operate either, press the power button for more than 4 seconds to turn off the computer. Your unsaved work may be lost/damaged. The next time you turn on your computer, a hard disk check will be performed, before Windows starts.

Using the Keyboard

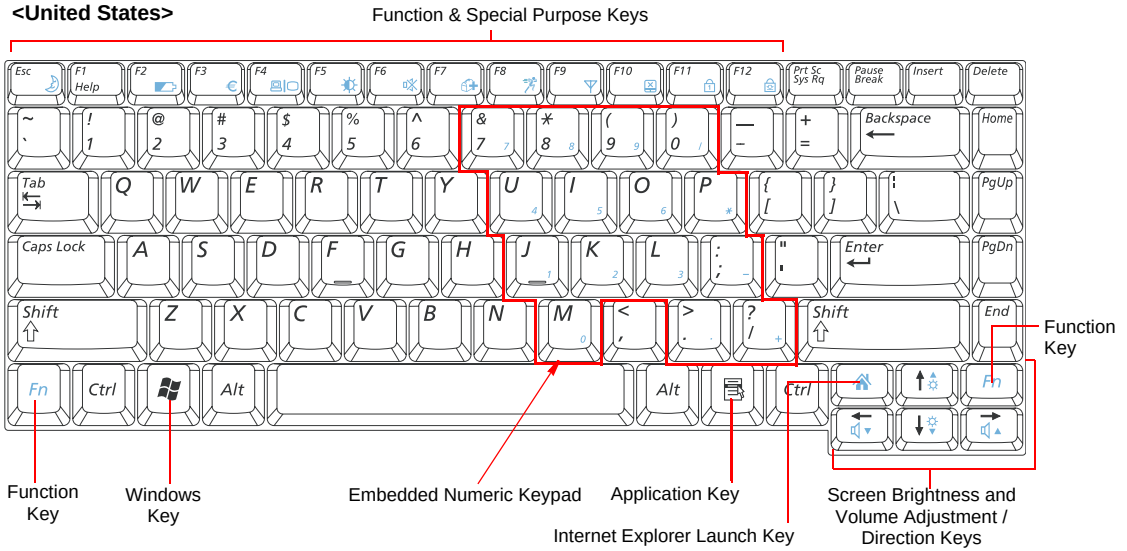
Your computer has an 88-key keyboard. By pressing designated key combinations, you can have access to all the key functions of a full-sized keyboard.

The keyboard is supplied according to the corresponding country. Refer to the keyboard figure for the corresponding country.

<United Kingdom>



Although the layout of the keys on your computer's keyboard is different from that on a desktop computer's keyboard, the keyboard feels like a full-sized keyboard when you use it.



The keys on the keyboard can be grouped into the following categories:

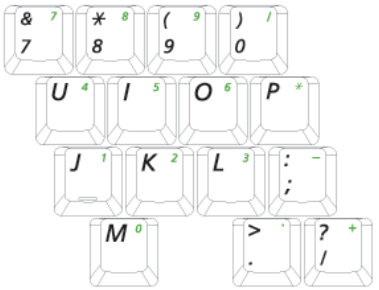
- Full-sized Alphanumeric typewriter keys are arranged like a standard typewriter keyboard and are used for text entry. The Windows keys on either side of the spacebar open Windows menus and perform other special functions.
- Function keys, when pressed together with the **<Fn>** key, enable special functions.
- Cursor and Screen control keys move the cursor. They may perform other functions, depending on your software.

To clean the computer keyboard, use slightly damp cotton swabs. Scrub the keys and the surface around the keys.

Do not allow liquid to drip into the keyboard or you may damage the keyboard.

Using the Numeric Keypad

Your keyboard includes a numeric keypad, which is a group of keys that you can set to type numbers and mathematical symbols, such as the plus sign. A number or symbol on the corner of each keypad key shows its numeric function.



Num Lock LED

Press **<Fn+Num Lock>** to turn on the embedded numeric keypad. The numeric functions of the keypad are enabled and the Num Lock LED turns on. ("Reading the Status Indicators" on page 15 for the location of the Num Lock LED.)

While the numeric functions are enabled, you can temporarily return a key to its normal function by pressing the key and the **<Fn>** key. For example to type the letter *m*, press **<Fn+M>**, this operation displays the letter **m**.

To turn the numeric keypad off, press **<Fn+Num Lock>** again. The Num Lock LED turns off.

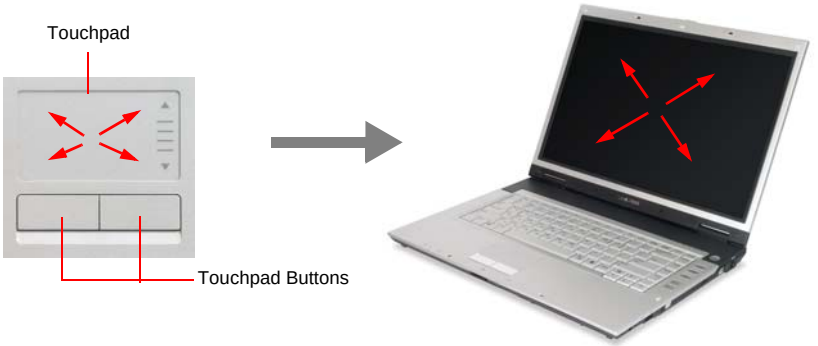
Using Special Function Keys

The function key activates special functions when it is pressed in combination with another keys.

<Fn> Key Combinations	Key Name	Key Function
<Esc/ >	Standby	Places the computer into standby mode. To resume from standby mode, press the power button. (p106).
<F2/ >	Gauge	Shows the remaining battery charge. Appears only when the Samsung Display Manager program is installed.
<F4/ >	LCD/CRT	Switches the display between the LCD and external display device when an external display device is connected. (p103)
<F5/ >	Backlight	Turns the LCD on and off.
<F6/ >	Mute	Turns the audio output on and off.
<F7/ >	Samsung Magic Doctor	Launches Samsung Magic Doctor used for system diagnostics and recovery. (p144)
<F8/ >	Easy SpeedUp Manager	Allows users to select a noise level and power consumption mode depending on their requirements. You can select a mode from the following modes by pressing this key. **Silent**: Low-noise, low power comsumption mode. **Normal**: Standard mode. **Speed**: Allocates system resources to currently activated program at the highest priority to enhance practical performance.
<F9/ >	Wireless LAN	Turns the wireless LAN on or off. However, this button does not work for this model as the model has a Wireless LAN latch on its right side. **Note.** Wireless LAN is optional, and may not be supported depending on your model.
<F10/ >	Touchpad	Turns the touchpad function on and off.
<F11/ >	Number Lock	Enables the numeric keypad. (p10)
<F12/ >	Scroll Lock	Scrolls the screen up and down while the cursor position does not change in some applications.
< / >	Volume Down	Decreases the audio volume.
< / >	Volume Up	Increases the audio volume.
< / >	Brightness Up	Makes the LCD screen brighter.
< / >	Brightness Down	Makes the LCD screen dimmer.
	Internet Explorer Launch Key	Launches Internet Explorer.

Using the Touchpad

In Windows, you always see a small graphical image on the screen that indicates the location where you can take the next action. This image is called a pointer, and is usually displayed in arrow shape ( ) or 'I' shape ( ).



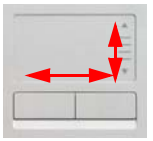
The touchpad on your computer allows you to move the pointer on the LCD screen, just like a mouse that is used with a desktop computer. The touchpad buttons allow you to take actions with the pointer, such as selecting an item or executing a command.

Locking the touchpad

You can lock the touchpad and use only the keyboard and mouse. To lock the touchpad function, press the **<Fn>**+**<F10>** key combination.

You can perform various actions with your touchpad as described below.

Action	Function	Process
Move	Move the pointer	Place your finger on the touchpad and slide your finger to a destination.
Click	Select an object, open a menu, or execute a button	Place the pointer over an object, then press left touchpad button once. Or, place the pointer over an object, then tap the touchpad once with your finger.
Double-Click	Launch a program or open a file	Place the pointer over an object, then quickly press left touchpad button twice. Or, place the pointer over an object, then quickly tap the touchpad twice with your finger.
Right-Click	Display a short cut menu	Place the pointer over an object, then press right touchpad button once.
Drag	Move an object, or select an area or multiple objects	Drag and drop a part to the required place.

Action	Function	Process
Scroll 	Display upper/lower/left/right part of the content within a window (Applicable to certain programs only)	Place your finger on the right edge or bottom edge of the touchpad and move vertically or horizontally.

Please use the touchpad only with your finger. Using sharp devices may damage the touchpad.

Operating the touchpad or touchpad button while starting your system may increase the time required for starting Windows.

Reading the Status Indicators

Shows the operating status of the computer.

	Num Lock	Turns on when the numeric keypad is activated.
	Caps Lock	Turns on when all alphabet characters you type will be in upper case.
	Scroll Lock	Turns on when it is set to scroll the screen up and down while the cursor position does not change in some applications.
	Hard Disk Drive / CD-ROM Drive	Blinks when the hard disk drive or CD-ROM drive is in operation.
	Wireless LAN	Turns on when the wireless LAN function is enabled. (This light does not operate for models without a wireless LAN.)
	Battery	**Turns Light Green**: when the battery is fully charged, or when the battery is not installed. **Turns amber**: when the battery is being charged. **Blinks**: when the battery is not properly installed.
	Power	**Green**: The AC adapter is connected. **Blue**: The computer is turned on. **Blink**: The computer is in Standby Mode.

Adjusting LCD Brightness

There are 8 levels of LCD brightness (1: Dimmest ~ 8: Brightest).

To adjust using keyboard

Press <**Fn**>+< ☼▼ > or <**Fn**>+< ☼▲ > keys from the keyboard to adjust LCD brightness.

Adjusting the brightness using the Battery Manager

You can adjust the screen brightness using the Battery Manager. (p113)

Maintaining your LCD brightness settings after turning the system off and on

1. Turn the system on. When the Samsung Logo appears, press the <F2> key to enter Setup.
2. In the **Boot** menu, change the **Brightness Mode Control** option to **User Control**.
3. Save the settings and exit Setup.

- When using the Battery Manager, only the screen brightness set in 'Customized Mode' is maintained.

To save the battery charge

When your computer is operating on battery power, adjusting the LCD brightness level to dimmer diminishes the battery power consumption.

Bad pixels in the LCD

The limits of the LCD manufacturing technology allow a maximum of 10 abnormal or bad pixels, which do not affect system performance. This system may have the same level of abnormal or bad pixels as any other company's products.

Maintenance Instructions

When cleaning the LCD panel, use only computer specific cleaners on a soft cloth, and lightly wipe in one direction.

Adjusting the Volume

Adjusting the Volume using the Volume Control Button (Only for Some Models).

Adjust the volume by using the Volume Control Button (VOL+ , VOL−).

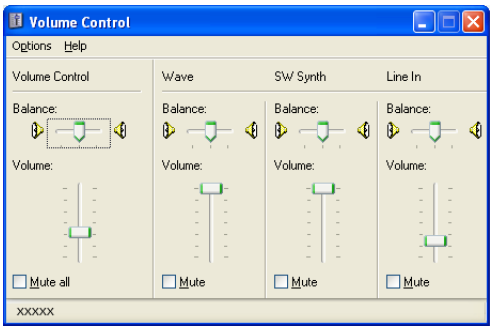
To adjust using keyboard

Press <**Fn**>+< ▼ > or <**Fn**>+< ▲ > from the keyboard.

To adjust using volume adjustment program

Click the **Volume** icon( ) on the taskbar, and move the Volume slider to a desired level.

For advanced volume control options, double-click the **Volume** icon( ), and adjust the volume level in the volume control program.



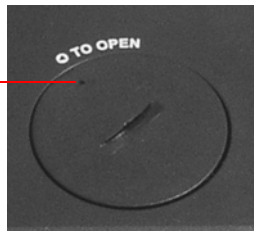
When you turn the system on, a booting noise may occur.

Using the Remote Control (Optional)

Using the remote control for the computer is described below. To use the remote control, install the supplied battery into the remote control first.

Installing Battery

Move the groove ((◀)) on the cover to the (●) position by using a coin and open the battery cover. (To open the cover, turn it counterclockwise.)

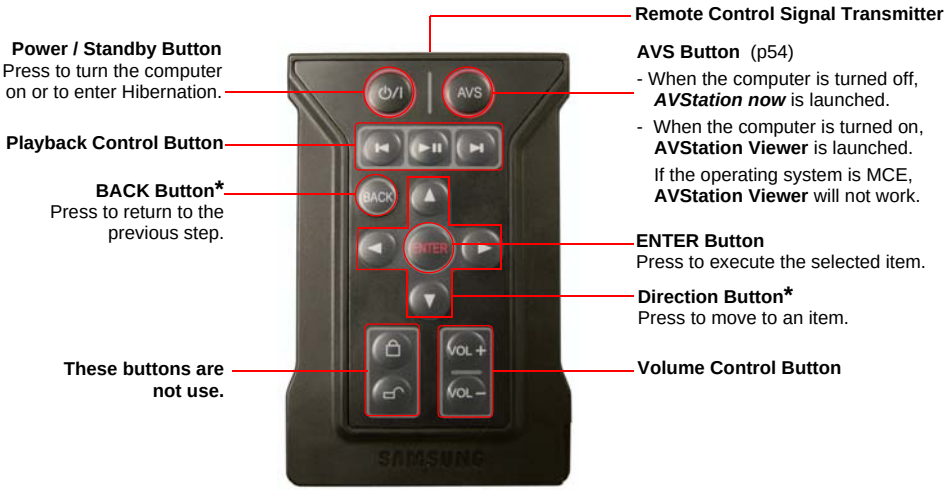


.

Insert the battery so that the **positive pole (+)** of the battery is towards the inside of the cover

Move the groove ((◀)) on the cover to the (●) position by using a coin and open the battery cover by turning it clockwise.

Remote Control Buttons


Remote Control Signal Transmitter
Power / Standby Button
Press to turn the computer on or to enter Hibernation.
AVS Button (p54)
- When the computer is turned off, AVStation now is launched.
- When the computer is turned on, AVStation Viewer is launched.
If the operating system is MCE, AVStation Viewer will not work.
Playback Control Button
BACK Button*
Press to return to the previous step.
ENTER Button
Press to execute the selected item.
Direction Button*
Press to move to an item.
These buttons are not use.
Volume Control Button
AVS
BACK
ENTER
VOL +
VOL –
SAMSUNG

Buttons indicated by (*) do not work in some applications.

When pressing the **Power / Standby Button** in Windows, the computer enters Standby mode. The computer will not shut down.

Remote Control Operating Range

The valid distance for the remote control is determined by the user environment. It is recommended to use the remote control within 3 meters and a 45 degree angle from the remote control sensor on the device.

When the remote control is not being used, keep the remote control in the PCMCIA slot. To keep the remote control in the slot, insert the remote control into the slot so that the Remote Control Signal Transmitter faces outward.

Introducing Windows

Understanding the Desktop

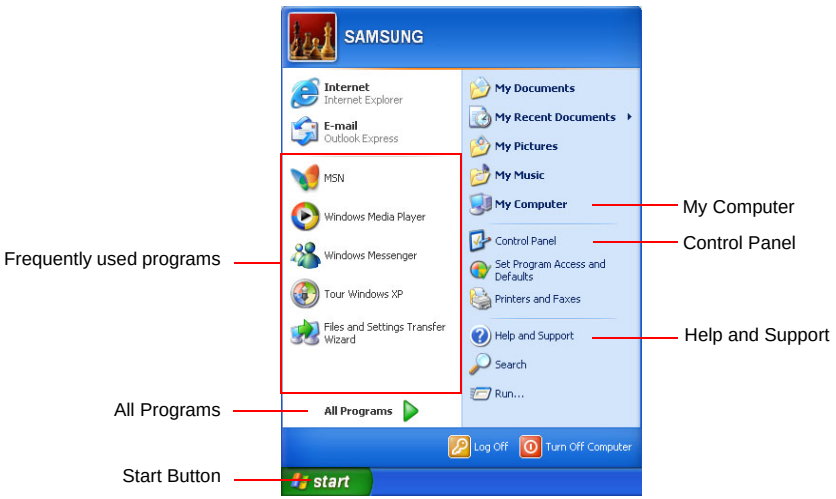
The desktop is the working area on the computer. It consists of the large workspace and a taskbar at the bottom.

Some images on the screen may differ depending on the operating system.

Start Button	start	Opens the Start menu.
Taskbar		Displays programs that are currently running. Frequently used icons can be placed here.
Recycle Bin		Deleted files or folders are sent here.
Language Bar	EN English (United Kingdom)	Switches text input language.

Understanding the Start Menu

The Start menu includes everything that is required to start Windows. From the Start menu it is possible to run a program, open a file, assign system users with Control Panel, receive support by clicking Help and Support, and search desired items from the computer or Internet by clicking Search.

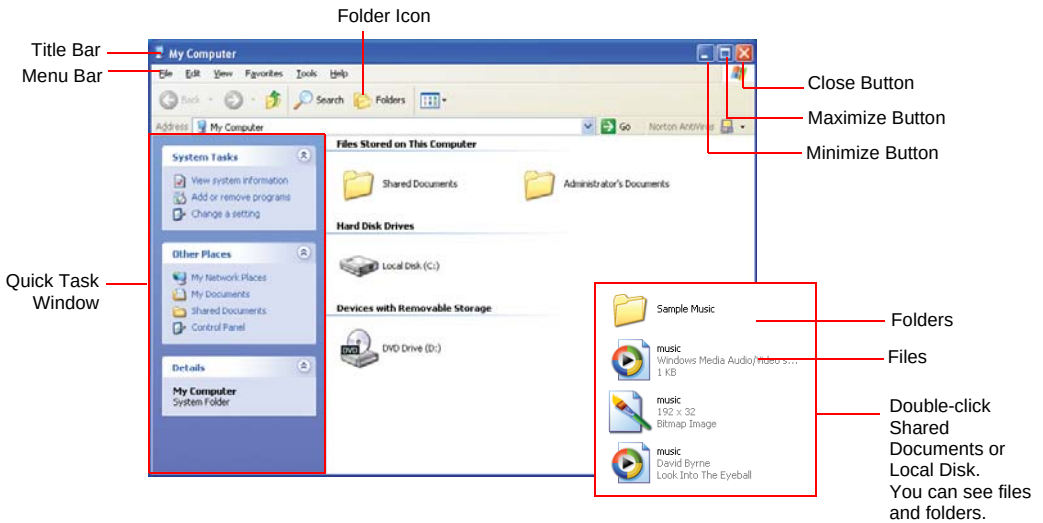


My Computer		Displays the contents of the hard disk, the CD-ROM drive, the network drive(s), and floppy disks. It can also be used to search and open files and folders.
Control Panel		Enables users to configure settings on the computer.
Help and Support		Provides on-line help, information on Windows and troubleshooting.
Search		Enables users to search for information in files or the Internet.
Run		Run programs or documents.

Understanding a Window

A window is the basic component in working with the computer. The My Computer window, which is a window for the computer's hard drive, will be used as an example here to show the basic composition of a window.

Click **Start > My Computer**.



Double-click the hard drive (local disk) to view internal folders and files stored in it. If the contents do not appear, click **Show the contents of this folder**.

What is a drive?
A storage device in which files and folders are saved in, and read from.

What is a folder?
A folder is used to group and manage files systematically, and may include files in sub-folders. It is similar to a bookshelf.

What is a file?
A file is a document or various kinds of material that is generated as a result of program operation. It is also called data.

To view the entire structure of the drive
Click the Folder icon in the taskbar to view the entire structure. Click again to return to the Quick Task Window.

Help and Support Center

Help and Support Center provides references and troubleshooting information regarding computer use.

Click **Start > Help and Support**.

Please refer to help and support centre before calling the Samsung helpline.

Windows XP Tour

You can tour elementary functions provided by Windows XP.

Click **Start > Tour Windows XP**.

Or click **Start > All Programs > Accessories > Tour Windows XP**.

Click on the topics to find out about important functions of Windows XP.

Using the Computer

Using the CD Drive

You have one of following drives installed in your computer.

RW-Combo Drive	Reads a CD/DVD and writes a CD.
DVD Super Multi Drive	Reads CD/DVDs and writes data to CD/DVDs. Supported DVD types include DVD ± R, DVD ± RW and DVD-RAM.
Super Multi LightScribe	The DVD Super Multi function is also supported. Moreover, you can write an image onto the disk surface. However, for this purpose, you must use a disk which supports LightScribe as well as software which supports LightScribe. The LightScribe function enables printing an image onto the disk surface.

A CD-ROM drive is optional. For more detailed product specifications, refer to the product catalog.

To insert a CD

1. Press the eject button on right side of the CD drive.
2. When the tray slides out, place a CD onto the tray with the label facing up, and push the CD down until it clicks.

3. Push the tray in gently until it clicks.

To eject a CD

1. Stop any process that accesses the CD drive and ensure the CD access LED is turned off.
2. Press the eject button on right side of the CD drive.
3. When the tray slides out, remove the CD from the tray.
4. Push the tray in gently until it clicks.

If you remove the CD when the CD access LED is on, the disk and the data in it may be damaged.

Emergency Eject Hole
To eject a CD when the CD drive is not working or the computer is turned off, unfold a paperclip, and insert the unfolded end of the clip into the emergency eject hole (located next to the eject button) and press until the CD tray opens.

To clean a CD or DVD title
Clean the disc with a soft clean cloth by wiping from the center outwards.

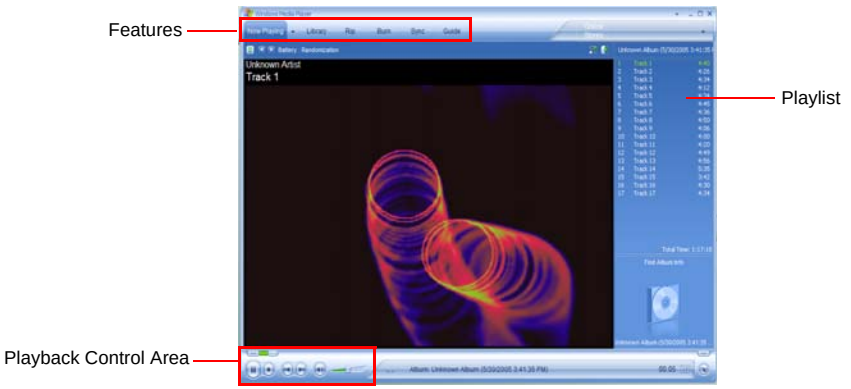
To use the Windows Media Player

Window Media Player enables you to play and manage audio and video files.

To launch the Windows Media Player, click **Start** > **All Programs** > **Accessories** > **Entertainment** > **Windows Media Player**.

Running the program the first time displays the set up screen. Define the settings according to the instructions displayed on the screen.

When you complete the settings, the following screen appears.



To view detailed information on how to use Windows Media Player

Run Windows Media Player and right-click over the Function Taskbar and select **Help > Windows Media Player Help**.

To play a video CD

If a video CD does not run automatically, follow these steps.

1. Insert a video CD into the CD drive.
2. When the CD drive window appears, double-click the MPEGAV folder.
3. Double-click the .dat file.
4. When the [Caution] dialog appears, click **Open With**.
5. Select “Select the program from a list” and click **OK**.
6. Select the **Windows Media Player**, and click **OK**. The video starts playing.

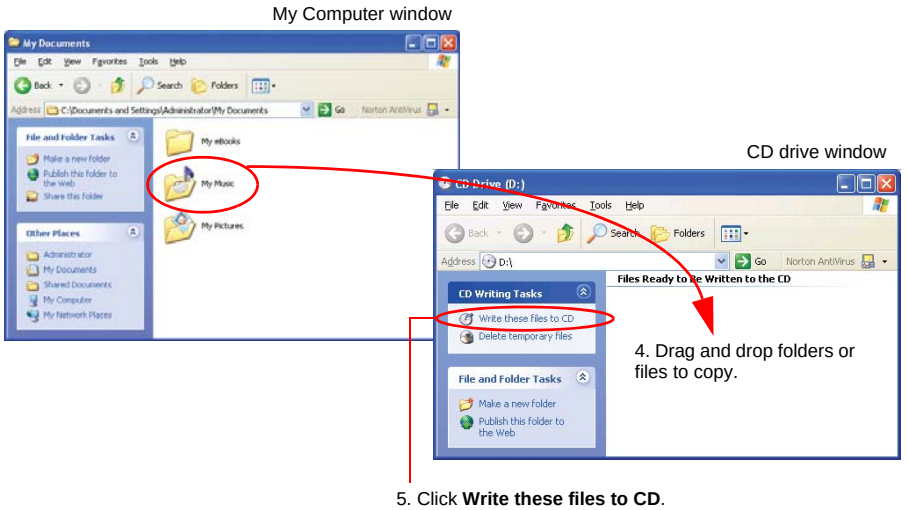
Above procedure applies only to the video CDs that has a .dat file as the execution file. Playing procedure may be different according to video CDs.

To write data on a CD (Optional)

If your computer has CD-RW functionality, you can copy data to a blank CD or create an audio CD.

You cannot write to a CD that already has data in it.

1. Insert a blank CD into the CD drive.
2. On the [CD Drive] dialog, select **Open Writable CD Folder** and click **OK**. The CD drive window appears.
3. Click **Start > My Computer**.
4. In My Computer window, select files and folders to copy, then drag and drop them onto the CD drive window.



5. Click **Write these files to CD** in the CD drive window.
6. When the CD Writing Wizard appears, enter the CD label, and click **Next**. The data begins copying.
7. When copying is completed, a ‘completed’ message appears and the CD drive window opens automatically.

For more information on writing CDs
Click **Start > Help and Support**. Type “CD copy” in the search field, and click the **Search** icon ( ).

To Burn an Audio CD

Run Windows Media Player and right-click over the Function Taskbar and select **Help > Windows Media Player Help**.

Select **Using the Player > Using CDs, DVDs and VCDs > Using CDs > Burning your own CDs > To burn your own CD** to see detailed information.

Enjoying Home Theater (S/PDIF Port)

Your computer supports 5.1, 6.1, and 7.1 channel output, which is a basic function for home theater systems, and DVD drives. It provides 3D surrounding sound and vivid screen.

This manual describes the procedures for 5.1 channel sound as the basic example.

What is a home theater system?
Home theater system usually consists of a TV, DVD, 5.1 channel speaker, and digital amp and provides a high-resolution screen (MPEG2) and 3D surrounding sound (Dolby 5.1 or DTS). With a home theater system, you can enjoy a vivid screen and sound in your home as if you are in a movie theater.

The following devices are required to enjoy a home theater system.

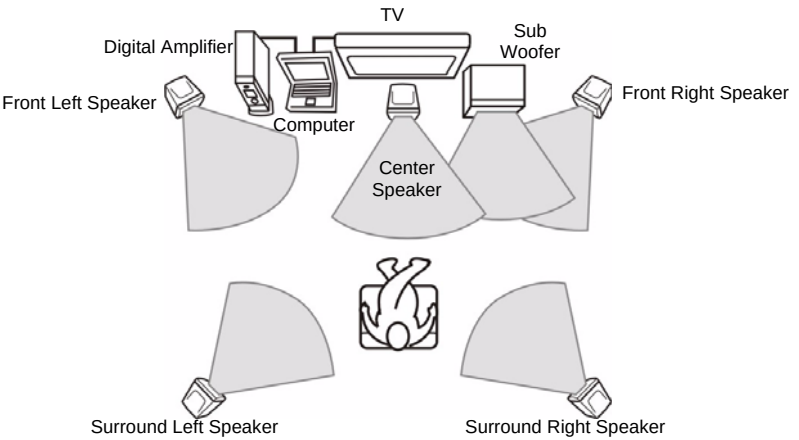
5.1 channel speaker system (amplifier, speakers, connection cables)	Purchased separately
DVD drive and DVD playing program on the computer	Optional
DVD title that supports 5.1 channel	Purchased separately

To use home theater system, complete the following procedures:

- Step 1. Connect 5.1 channel speaker system to your computer.
- Step 2. Configure digital sound output on the computer.
- Step 3. Enable S/PDIF output on the DVD program.

Step 1. Connect 5.1 channel speaker system to your computer

1. Connect the S/PDIF jack of the system and a 5.1 channel amplifier.
2. Connect speakers to the amplifier. (Refer to speaker's manual.)
3. To view through a TV, connect the TV and change the current display device to TV in the Display Properties. ("Using External Display Devices" on page 103)



Step 2. Setting the Sound to Digital Sound Output on the Computer

Since the sound of the computer is set to Digital Output by default when purchasing the computer, additional settings are not required. You can confirm the setting as follows.

1. Double-click the Volume Control ( ) icon in the notification area of the Taskbar and select **Options > Advanced Controls**.
2. Click the **Advanced** button below the Master Volume and check if the **1 Disable Digital Output** item is unselected.
   The option must be unselected for sound to be output in digital format.

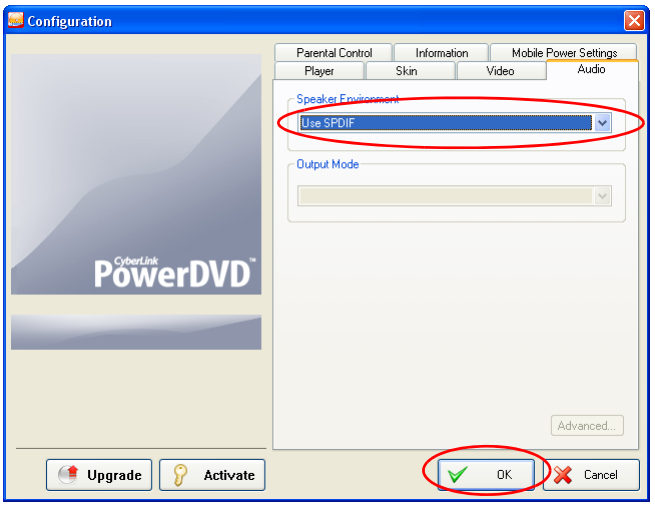
Step 3. Enable S/PDIF output on the DVD program

To use 5.1 channel speakers, you need to install the CyberLink Power DVD program from the CyberLink DVD Solution Installation CD (or System software Media) provided with your computer, then change the settings as per the following.

The CyberLink PowerDVD program is optional and may not be provided depending on the model.

1. Run CyberLink Power DVD program and click the **Configuration** icon ( ).

2. On the **Audio** tab, set the Audio Output setting to “Use SPDIF” and click **OK**.



Now, you can enjoy home theater using DVD titles.

To control volume for your 5.1 channel speaker, use the control on the digital amp. (Please refer to the speaker manual.)

Using the Multi Card Slot (Optional)

Using the Multi Card Slot, you can use memory cards such as a Memory Stick, Memory Stick Pro, SD Card, MMC, or xD Card. A memory card is used as a removable disk and is useful for exchanging data between a computer and a digital device such as a digital camera.

Memory Stick

Memory Stick Pro

SD Card

MMC

xD Card

A multi-card slot is optional and is not provided for some models.

Restrictions when Using Memory Cards

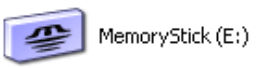
You can use memory cards for storing data only. Copyright protection function is not supported.

To insert and use a memory card

You should insert the memory card with the writing on the card facing downwards.
Inserting wrong side up may cause damage in the memory card and the computer.

1. Insert a memory card into the Multi Card Slot.

2. Click **Start** > **My Computer**. The inserted memory card is displayed.



Example : Memory Stick

3. You can write data to the memory card. If the memory card is not formatted yet, format the memory card before use.

Since the memory card may be easily mislaid when moving your computer, keep the memory card separately.

To remove a memory card

1. Press the end of the memory card softly to pop it outward.
2. If the card pops out with a clicking sound, remove the card from the system.

To format a memory card

You can use a memory card after the format operation. The procedures to format a memory card are described below.

Since format operation deletes all data in the memory card, please make sure that there is no important data in the memory card before formatting.

To protect the data in the memory card
Set the write protection tab of the Memory Stick or SD memory card to the Lock position.

1. Click **Start** > **My computer**.
2. Press the right touchpad button on the memory card drive, and select **Format** from the pop-up menu.
3. Click **Start** to start the format operation.

To use a memory card in both the computer and other digital device such as digital camera, it is recommended to format the memory card in the digital device. If you format the memory card in the computer, you may have to format the memory card in other digital device again to use the memory card in the digital device.

Using the PCMCIA Card Slot

Various different functions can be added by inserting PCMCIA cards into the system. This system supports 16/32 bit, type I or II PCMCIA card types.

The PCMCIA card slot does not support a ZV card or a PCMCIA III card.

To insert a PCMCIA card

Before using the PCMCIA slot, remove the slot protector.
Push the eject button of the PCMCIA card slot once to pop it out. Push the button again to eject the slot protector.

1. Insert a PCMCIA card into the PCMCIA card slot on the side of the computer.

Ensure that the PCMCIA card is inserted the correct way, as incorrect insertion will damage the PCMCIA card slot.

2. Windows automatically installs the necessary driver for the card. If there is no available driver found by Windows, you have to install the driver using a disk supplied with the card.

To remove a PCMCIA card

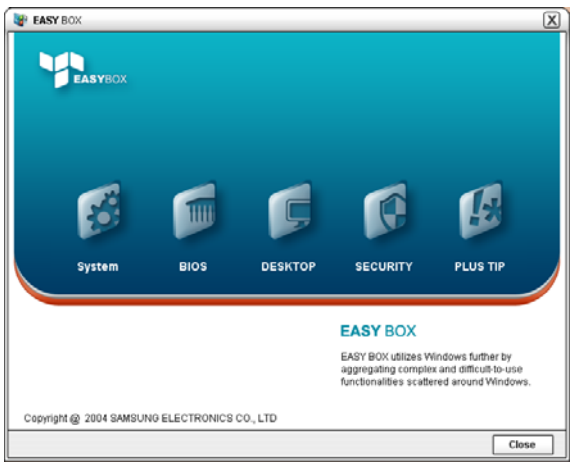
1. Double-click **Safely Remove Hardware** icon ( ) on the taskbar.
2. On the [Safely Remove Hardware] dialog box, select the appropriate PCMCIA card and click **Stop**.
3. When [Stop a Hardware Device] dialog box appears, click **OK**.
4. Click **Close** to close the [Safely Remove Hardware] dialog box.
5. Push eject button of the PCMCIA card slot once, and the button pops out.
6. Push the button again to eject the PCMCIA card.

Using EasyBox

Use EasyBox program to make use of Windows' complicated function easily and conveniently.

Learn about EasyBox

Double-click the **EasyBox(** **)** icon on the desktop.
(Or select **Start** > **All Programs** > **Samsung** > **EasyBox** > **EasyBox**.)



- **System**: System management features are available, including disk defragmenter, disk cleanup, computer scheduling and system restore.
- **BIOS**: In windows-based mode, you can recover the BIOS defaults and change the boot sequence.
- **Desktop**: Desktop management features include changing the font size, executing a magnifier function, the start menu settings and managing the quick launch icons on the taskbar.
- **Security**: Here you can configure the security settings supported by Windows XP SP2. You can also change the configuration of the firewall settings, Windows automatic updates and blocking pop-ups when connected to the Internet.
- **Plus Tip**: This is a collection of additional Windows functions that are useful for system management. (Offering shortcut descriptions of Windows, configuring network sharing and opening local folder sharing, etc.)

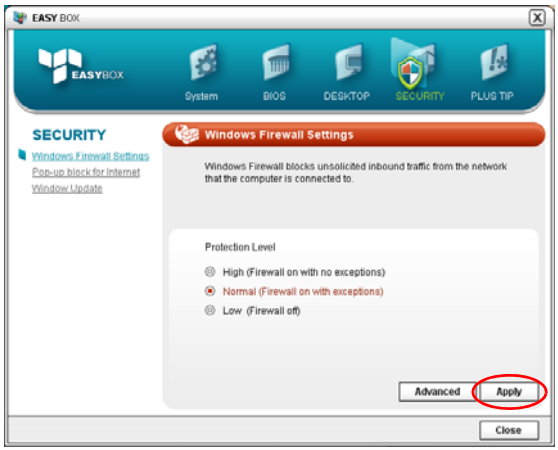
Using EasyBox

The Security management function will be used as an example here to show the function of Easybox

Configuring Firewall

The Windows Firewall prevents unauthorized users from gaining access to your system via the network or the Internet.

1. Click **Start > All Programs > Samsung > EasyBox > EasyBox**.
2. Click **Security** from the top menu bar.
3. Select **Windows Firewall Settings** from the Security menu on the left.
4. Select a firewall level.
5. Click **Apply**.



Click the User Setting button for advanced features, including exceptions and permissions.

Using Samsung Update Plus

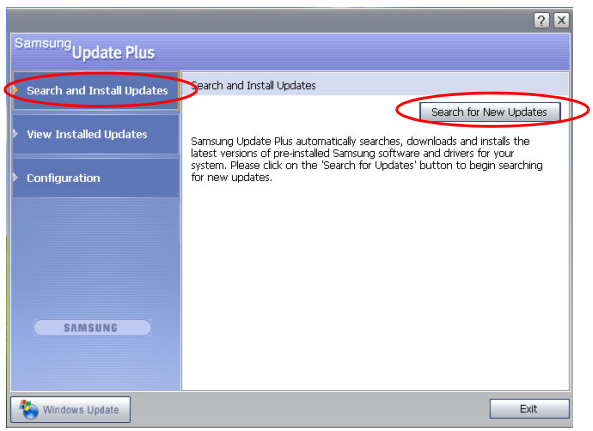
Samsung Update Plus is software that examines and updates Samsung software and drivers installed on your Samsung computer to the latest version. To use Samsung Update Plus, your computer has to be connected to the Internet.

To Update Samsung Software and Drivers

1. Select **Start** > **All Programs** > **Samsung** > **Samsung Update Plus** > **Samsung Update Plus**.

If this is the first time you are running the program, a window will appear asking you if you agree to the agreement in the window.
Click Agree to use this software.

2. Click **Search for and Install Updates** and click the **Search for New Updates** button.


Samsung Update Plus
Search and Install Updates
View Installed Updates
Configuration
SAMSUNG
Search and Install Updates
Search for New Updates
Samsung Update Plus automatically searches, downloads and installs the latest versions of pre-installed Samsung software and drivers for your system. Please click on the 'Search for Updates' button to begin searching for new updates.
Windows Update
Exit

3. If there are available software or driver updates for your computer, the available updates will be listed. Select the required updates from the list and click **Install Update** to start the update.

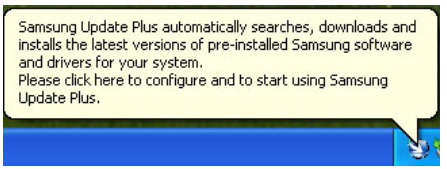
   (The update list on the screen may differ depending on the computer model.)

Updates that must be installed separately.

If you select **Install** as an update item that must be installed separately, a message appears informing you of this. Follow the instruction message to correctly install it.

Automatic update items display

By default, your computer is configured to automatically search for updates. If there is a new update available, this is notified in the notification area. Click the balloon help icon in the notification area. Here you will be able to find the latest available updates.


Samsung Update Plus automatically searches, downloads and installs the latest versions of pre-installed Samsung software and drivers for your system.
Please click here to configure and to start using Samsung Update Plus.

To change the automatic update settings, click the **Configuration** button in Figure 2 and change the settings.

Samsung Update Plus does not provide updates for additionally installed software and device drivers.

Using AVStation premium

AVStation premium is an integrated multimedia program that enables users to enjoy music, photographs, video, movies, etc. all with a single program.

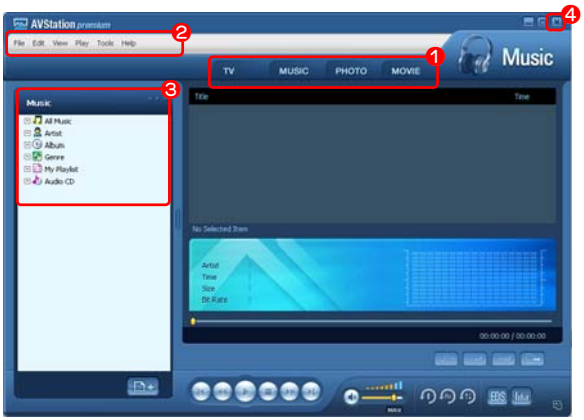
Before You Start!

- AVStation premium is optional and may not be provided depending on the model.
- The screens used in this manual may differ from actual screens according to the program version.
- TV Station is only available for systems supporting the TV function.
- For detailed usage, refer to the program help.

Start and Screen Layout

To launch the program, select **Start** > **All Programs** > **Samsung** > **AVStation premium** > **AVStation premium**.

Alternatively double-click the AVStation premium icon ( ) on the Desktop.



1. **Station Bar**
2. **Menu Bar**
3. **Library**
4. **Exit**
   Press the Exit button to exit the program.

MUSIC

You can play a music file or an audio CD.

PHOTO

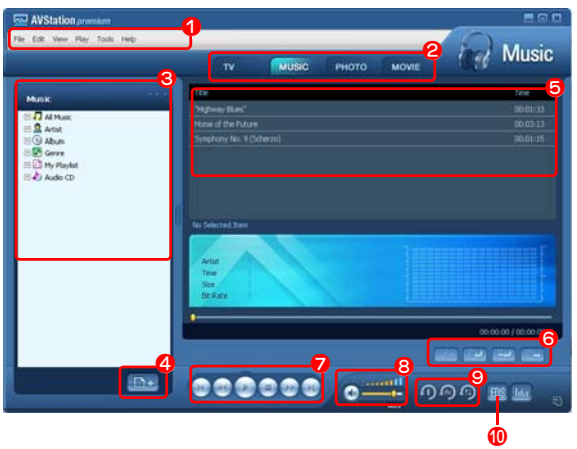
You can view or edit a photograph (image), and also view the photographs through a SlideShow.

MOVIE

You can play a video (movie) file or a DVD/VCD title.

MUSIC Station

Launch AVStation premium and click **MUSIC** on the Station Bar.



❶ MUSIC Menu Bar
❷ Station Bar
❸ MUSIC Library
❹ Register a File
❺ Playlist
❻ Playlist Control Buttons
❼ Play Control Buttons
❽ Volume Control
❾ Play Options
❿ EDS Setting Button

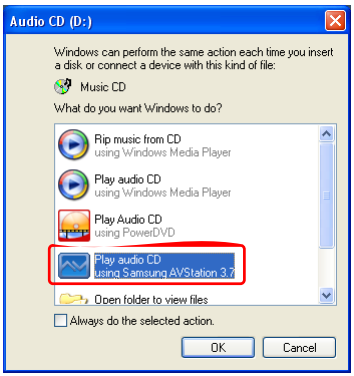
What is EDS (Enhanced Digital Sound)?

EDS (Enhanced Digital Sound) is a sound quality enhancement technology developed by Samsung Electronics. You can listen to clearer sound if you enable the EDS function when playing music or video on AVStation premium.

Playing an Audio CD

The procedures to play an audio CD are described below.

1. Launch AVStation premium and insert an audio CD into the CD drive.
2. In the **Audio CD** window, select **Play Audio CD using Samsung AVStation** and click the **OK** button.


Audio CD (D:)
Windows can perform the same action each time you insert a disk or connect a device with this kind of file:
Music CD
What do you want Windows to do?
Rip music from CD using Windows Media Player
Play audio CD using Windows Media Player
Play Audio CD using PowerDVD
Play audio CD using Samsung AVStation 3.7
Open folder to view files
Always do the selected action.
OK
Cancel

3. The tracks on the audio CD are displayed in the Playlist and the first track is automatically played.

If an audio CD is already in the CD drive, double-click the **album title** in the **Audio CD** folder of the Library and add the tracks to the Playlist. The tracks added to the Playlist are played.

Playing a Music File

If a music file is registered to the MUSIC Library, you can easily play the music file. For the procedures to register tracks to the Library, refer to (p45).

1. Move to MUSIC Station and double-click on **All Music**.
2. Double-click a music file. The file is added to the playlist and played.

Play a Track not registered to the Library

Click File > Open, select a music file to be played and click Open. The selected track is registered to the Library and played.

Creating My Playlist

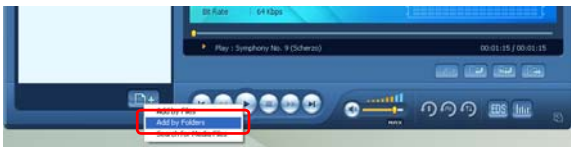
My Playlist is a personal album with which you can collect, manage and play your favorite music files. For the procedures to create My Playlist, refer to the descriptions of MUSIC Station in Help.

Adding Music Files to the Library

MUSIC Library is a library holding music files used by MUSIC Station. The procedures to add music files saved on the computer to the Library are described below.

You can add files, folders or search and add files. As an example, the procedures to add a folder are described below.

1. Click on the **Register a File** ( ) button below the Library and click on **Add by Folders**.

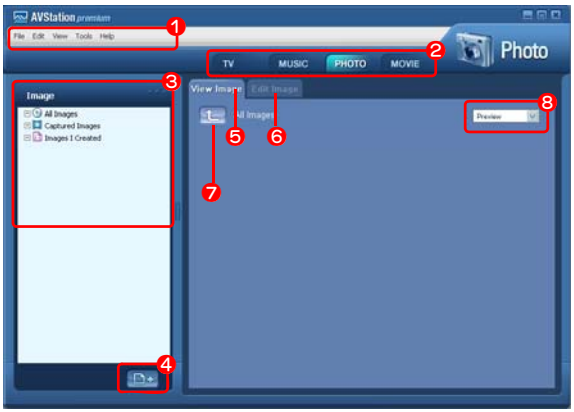


2. Select a folder which included music files and click the OK button. The music files in the folder are added to the Library.

The tracks used in AVStation are automatically added to the Library.

PHOTO Station

Launch AVStation premium and click PHOTO on the Station Bar.



1. PHOTO Menu Bar
2. Station Bar
3. PHOTO Library
4. Register a File
5. Image Viewer Tab
6. Image Editor Tab
7. Move to a Higher-Level Folder
8. Preview/Zoom-in

Viewing an Image

The procedures to view images registered to the PHOTO Library one by one and through a SlideShow are described below.

For the procedures to register image files to the Library, refer to (p49).

1. Move to **PHOTO Station** and double-click on **All Images**.
2. Click on a folder which includes images, and the images in the folder are displayed in the Image Viewer window.

3. Double-click on an image. The selected image is zoomed in on.

- Viewing an Image not registered to the Library

  Click **File > Open**, select an image file to view and click **Open**.

  The selected image file is registered to the Library and displayed in the Image Viewer window.

- Viewing an Image in Full Screen or through a SlideShow.

  Click the **Full Screen** ( ) button or **SlideShow** ( ) button below the Image Viewer window.

  Run Full Screen View and you can rotate the picture using the direction keys.

  To return to the Image Viewer window, press the **<Esc>** key or double-click on the screen.

- Watching a SlideShow while Listening to Music

  To watch a SlideShow while listening to music, play music from MUSIC Station and run SlideShow.

- Setting an Image as the Background.

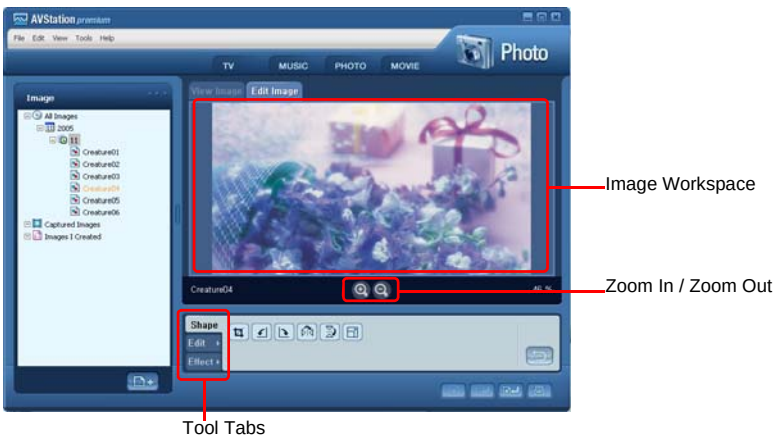
  Click the **Set as Background** button below the Image Viewer window. The selected image is set as the Desktop background.

Editing an Image

You can change the shape of an image, edit an image or apply special effects to an image. The image editor functions are described below.

1. Select an image to edit in **the Image Viewer window**, and select the **Image Editor** tab. The Image Editor screen appears.

   The Image Editor screen consists of an **Image Workspace window** and **3 Tool tabs**.



2. Edit the image using the Shape, Edit and Effect tools.

Shape tool: Change the shape of an image through cut, resize.
Edit tool: Draw a line, add some clip art or enter letters.
Effect tool: Apply various effects to an image.

3. When finishing editing an image, click the **Save Edited Image** ( ) button below the Image Editor window. The edited image is saved.

Adding Images to the Library

The PHOTO Library is a library holding image files to be used by PHOTO Station. The procedures to add image files saved on the computer to the Library are described below.

You can add files, add folders or search and add files. As an example, the procedures to add folders are described below.

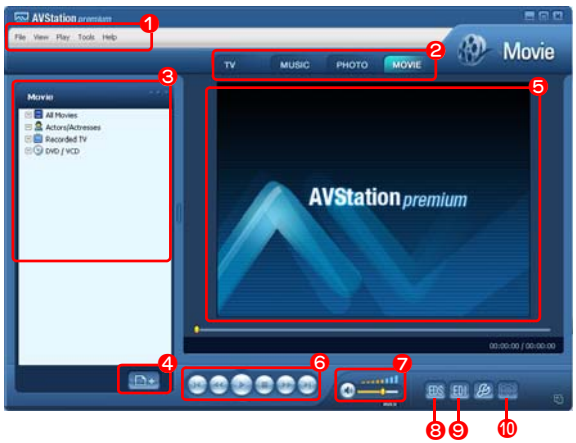
1. Click the **Register a File** ( ) button below the Library and click on **Add by Folders**.

2. Select a folder which includes image files and click the **OK** button. The image files in the folder are added to the Library.

The image files used in AVStation are automatically added to the Library.

MOVIE Station

Launch AVStation premium and click on **MOVIE** on the Station Bar.



1. MOVIE Menu Bar
2. Station Bar
3. MOVIE Library
4. Register a File
5. Video Play window
6. Play Control Buttons
7. Volume Control
8. EDS Setting Button (p42)
9. EDI Setting Button
10. Capture Button

What is EDI (Enhanced Digital Image)?

EDI (Enhanced Digital Image) is a visual quality enhancement technology developed by Samsung Electronics. You can view a clearer and sharper picture by enabling the EDI function when watching TV or playing a video on AVStation premium.

However, some TV tuners and graphics cards are not supported by EDI.

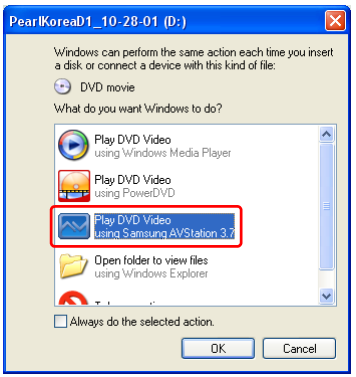
For information on EDS (Enhanced Digital Sound), refer to p42.

Playing a DVD

The procedures to play a DVD title are described below.

To play a DVD title, DVD playing software (e.g. CyberLink PowerDVD) must be installed. Install the DVD playing software first.

1. Launch AVStation premium and insert a DVD title into the DVD drive.
2. In the **'What do you want Windows to do?' window**, select **Play DVD Video using Samsung AVStation** and click the **OK** button.


PearlKoreaD1_10-28-01 (D:)
Windows can perform the same action each time you insert a disk or connect a device with this kind of file:
DVD movie
What do you want Windows to do?
Play DVD Video using Windows Media Player
Play DVD Video using PowerDVD
Play DVD Video using Samsung AVStation 3.7
Open folder to view files using Windows Explorer
Always do the selected action.
OK
Cancel

3. The DVD title is played.

If a DVD title is already in the DVD drive, double-click the **DVD title** in the **DVD / VCD** folder of the Library. The DVD title is played.

Playing a Movie(Video) File

The procedures to play a video file registered to the MOVIE Library are described below. For the procedures to register files to the Library, refer to p53.

1. Move to MOVIE Station and double-click **All Movies**.
2. Double-click a video file. The file is played.

- **Playing a Video File not Registered to the Library**

  Click **File > Open**, select a video file to be played and click **Open**. The selected file is registered to the Library and played.

- **Playing a Video File in Full Screen**

  1) Double-click on the current playback screen.

  2) The video is played in full screen. In full screen, move the mouse pointer to the bottom of the screen to show the Play Control bar.

     To play at the default screen size, press the **<Esc>** key or double-click on the screen.

- **Capturing the Video Screen**

  Click on **Capture Current Screen** ( ) below the Play window when the desired image appears on the screen and click the **OK** button.

  Captured images are saved in the **C:\Program Files\Samsung\AVStation Premium XX\Data\Captured Images** folder.

  In addition, you can view captured images in the **PHOTO Station > Captured Images** folder.

Adding Videos to the Library

The MOVIE Library is a library holding video files to be used by MOVIE Station. The procedures to add video files saved on the computer to the Library are described below.

You can add files, add folders or search and add files. As an example, the procedures to add folders are described below.

1. Click the **Register a File** ( ) button below the Library and click **Add by Folders**.

2. Select a folder which includes video files and click the **OK** button. The video files in the folder are added to the Library.

The video files used in AVStation are automatically added to the Library.

Using *AVStation now* / AVStation Viewer

Using these programs, you can play music, photographs, video and movies in full screen. You can enjoy multimedia using *AVStation now* when the computer is off and using AVStation Viewer when the computer is on.

Before You Start!

- *AVStation now* and AVStation Viewer are optional and may not be provided depending on the model.
- **AVStation now Restrictions**

  You can only use AVStation now when the computer is turned off.

  Using AVStation now, you can play files registered to the AVStation premium Library, saved to My Computer, and saved on the multi-card slot (optional). (For the procedures to register files to the Library, refer to p45, p49 and p53.)

  If you define a login password for a Windows user account or if the folder is protected, you cannot play the files in the folder on *AVStation now*.
- **AVStation Viewer Restrictions**

  Using AVStation Viewer, you can only play files registered to the AVStation premium Library. (For the procedures to register files to the Library, refer to p45, p49 and p53.)
- Since the screen layout and usage of the two programs are similar, the manual describes the functions and screens on the basis of *AVStation now*.
- The screen figures may differ from actual ones depending on the program version.
- TV Station is only available for systems supporting the TV function.
- The **AVS** button (, ,) is only provided for some computer models and clicking the **AVS** button (, ,), launches the Music, Photo and Movie Stations immediately.

Start / Exit *AVStation now*

Starting

Press the **AVS** button (, ,) of the computer when the computer is turned off.

Exiting

Move the mouse pointer to the top screen and click the **Exit** ( ) button.

Alternatively press the Power button of the computer.

For models with the remote control, press the **Power / Standby** button on the remote control to exit.

Start / Exit AVStation Viewer

Starting

Select **Start > All Programs > Samsung > AVStation premium > AVStation Viewer** from Windows.

Alternatively press the **AVS button** (, ,) of the computer from Windows.

Exiting

Move the mouse pointer to the top of the screen and click the Exit ( ) button.

Screen Layout

MUSIC

You can play a music file or audio CD.

PHOTO

You can view a photograph or image file one by one or in a SlideShow.

MOVIE

You can play a video, DVD or VCD title.

Settings

You can set the Music, Photo and Movie settings.

To move to the start screen while using the program, Press the <**Esc**> key.

Or, move the mouse pointer to the top left in the current screen and click the **AVStation** icon ( ).

Using the Remote Control

The basic uses of the remote control are described below. For more detailed information on the button functions, refer to "Using the Remote Control (Optional)" on page 18.

A remote control is optional and is only provided for some models.

A remote control is available for AVStation now, AVStation premium and AVStation Viewer, if the operating system is XP Home or XP Pro.

However, if the operating system is MCE, a remote control is only available for AVStation now and is not available for AVStation premium and AVStation Viewer.

- **Starting the Program**

  Click the **AVS** button on the remote control.

  Press the **AVS** button to move to the start screen while using the program.

- **Moving to an Item**

  Press the **Direction** buttons on the remote control to move to an item.

- **Selecting or Running an Item**

  When an item is selected, press the **ENTER** button on the remote control.

- **Moving to the Previous Screen**

  Click the **BACK** button on the remote control.

- **Exiting the Program**

  1. Press the AVS button on the remote control to move to the start screen.
  2. Press the ▶ button to move to the **Exit** button ( ) and press the **ENTER** button.

In AVStation now, you can also exit the program by pressing the **Power / Standby** button on the remote control.

MUSIC Station

The procedures to play a music file or an audio CD are described below.

Playing a Music File

The procedures to play a music file registered to the MUSIC Library are described below. (For the procedures to register files, refer to p45.)

1. Launch AVStation now and click on Music.
2. Click on All Music and double-click a file in the right pane.

   The music file is played.

❶ **My Computer**
This only appears in AVStation now. You can manually find and play files on My Computer or the multi card slot.
❷ **All Music**
❸ **Playlist Window**
❹ **Music File**

Playing an Audio CD

1. Launch AVStation now and insert an audio CD into the CD drive.
2. In the AVStation now start screen, click on **Music**.
3. Double-click the **Audio CD** in the left pane and double-click on an album or music file in the right pane. The selected music file is played.

PHOTO Station

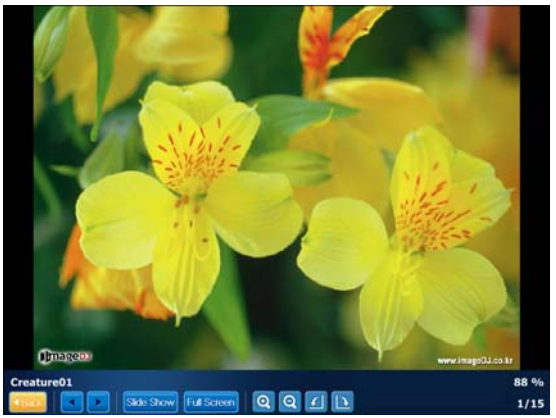
The procedures to view images registered to the PHOTO Library one by one and through a SlideShow are described below.

(For the procedures to register image files to the Library, refer to p49.)

1. Launch AVStation now and click on Photo.
2. Click on **All Images** and double-click on an image file in the right pane.

❶ **My Computer**
This only appears in AVStation now. You can manually find and play files on My Computer or the multi card slot.
❷ **All Images**
❸ **Image File**

3. The selected image is zoomed in on.



To view an image in Full Sreen or through a SlideShow.

Click on the **SlideShow** or **Full Screen** button below the zoomed in image.

To return to the previous status in SlideShow or Full Screen, press the **<Esc>** key or double-click on the screen.

In AVStation now, press the **<Esc>** key or double-click and click **Back**.

MOVIE Station

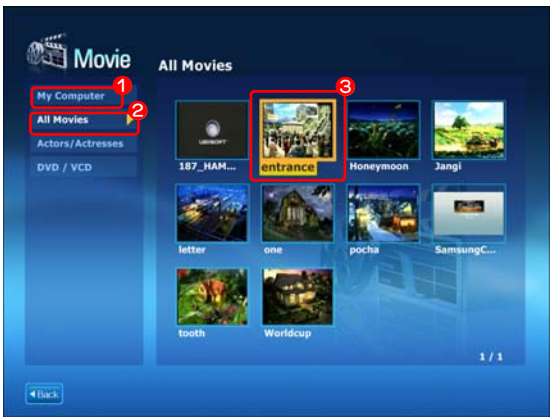
The procedures to play a video (movie) file or DVD/VCD title are described below.

Playing a Movie File

The procedures to play a video file registered to the MOVIE Library are described below. (Refer to p53.)

1. Launch AVStation now and click the **Movie**.
2. Click on All Movies and double-click a movie file in the right pane.

   The movie file is played.



❶ **My Computer**
This only appears in AVStation now. You can manually find and play files on My Computer or the multi card slot.
❷ **All movies**
❸ **movie File**

Showing the Play Control window

Press the space bar or move the mouse pointer. The Play Control window appears at the bottom.

Playing a DVD

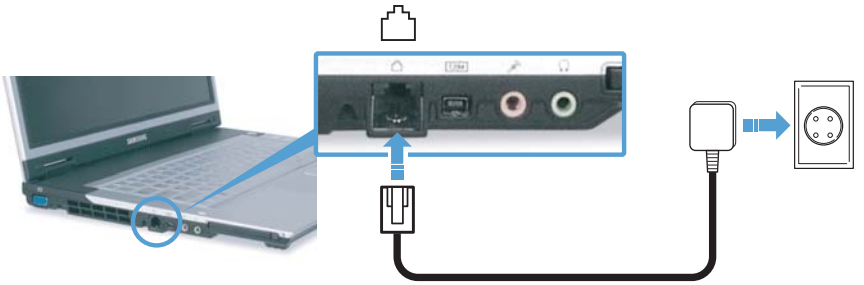
1. Launch AVStation now and insert a DVD title into the DVD drive.
2. In the AVStation now start screen, click on **Movie**.
3. Click on **DVD/VCD** and double-click on the DVD title. The DVD title is played.

Connecting to the Internet

Connecting with a Modem

- Use a standard non-digital phone line to connect.
- Contact an internet service provider (ISP) for instructions on how to connect to and disconnect from the Internet.

1. Connect a telephone line to the computer's modem port.



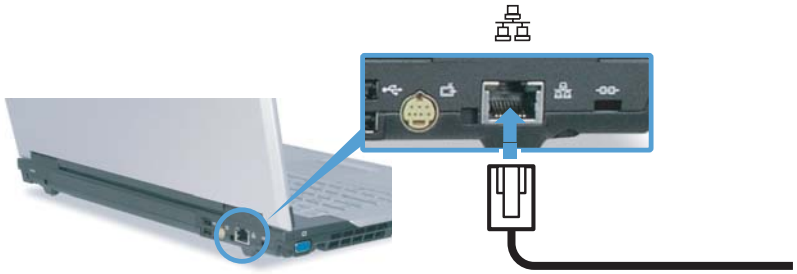
Do not connect a digital phone to the Modem Port. The high voltage may damage the modem.

2. Connect to the Internet according to the instructions provided by your ISP.

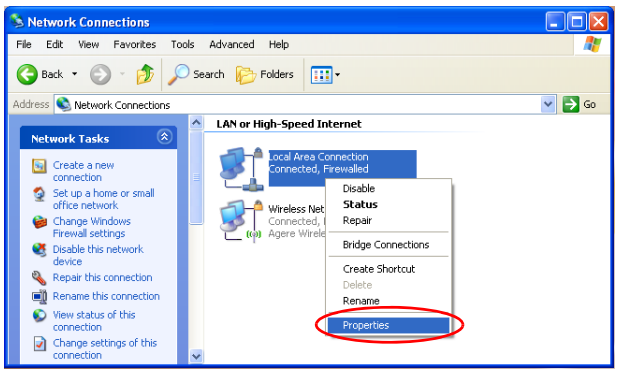
If the Internet connection is not disconnected properly, additional telephone charges may be imposed.

Connecting Through a Wired LAN

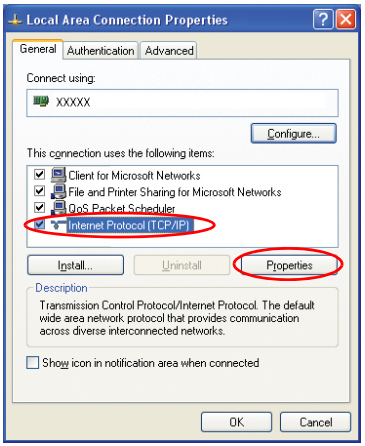
1. Connect a LAN cable to the computer's LAN port.



2. Click **Start** > **Control Panel**.
3. Click **Network and Internet Connections** in the [Control Panel] window.
4. Click **Network Connections** in the [Network and Internet Connections] window.
5. Right-click the **Local Area Connection** icon and click **Properties**.



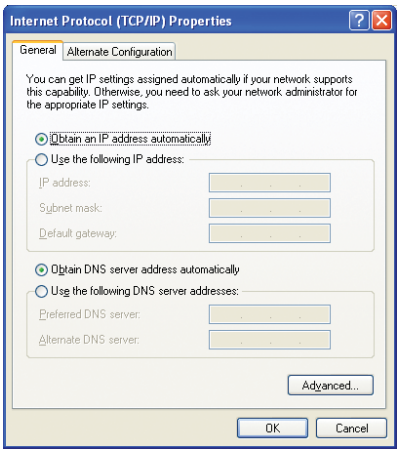
6. On the **General** tab, select “Internet Protocol(TCP/IP)” and click **Properties**.



7. **To use DHCP:**
On the **General** tab, select “Obtain an IP address automatically” and “Obtain DNS server address automatically”. Click **OK**.

To use a static IP:
On the **General** tab, select “Use the following IP address” and fill in the IP address, Subnet mask, Default gateway, Preferred DNS server, and Alternative DNS server fields. Click **OK**.

To use both DHCP and static IP simultaneously:
On the **Alternate Configuration** tab, click **User configured** and fill in the fields. Click **OK**.


Internet Protocol (TCP/IP) Properties
General
Alternate Configuration
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

Connecting Through a Wireless LAN (Optional)

A wireless network (Wireless LAN) environment is a network environment that enables communication between multiple computers at home or a small-size office through wireless LAN devices.

Using the wireless network connections between the systems, you can use normal network functions such as sharing of files, folders and printers. When a computer-to computer network has been established, a computer that is not connected to the Internet can share the Internet by accessing another computer connected to the Internet. For details, see “Sharing Internet Access” on page 79.

A wireless LAN card is optional. The model of the wireless LAN card is determined by the relevant product.

To view the installed wireless LAN card, click Start > Control Panel > Performance and Maintenance > System > Hardware tab > Device Manager.

The wireless LAN connection settings will be described on the basis of the Windows XP Service Pack 2 installed computer.

It is recommended using the default settings provided by Windows XP for the wireless LAN settings for Windows XP installed computers.
To setup using the software supplied by the wireless LAN card manufacturer, refer to "Wireless Network Setup Using the Wireless LAN Setup Program" (p73).

To use a wireless network, you have to turn the wireless LAN function on by using the Wireless LAN latch. (p4) If the wireless LAN is turned on, the Wireless LAN LED ( ) turns on.

Wireless network connections can be classified into two categories.

1) Access Point (AP)

You can connect to an AP to use the network. This is possible only in an environment equipped with an AP. For details, see “Connecting to an Access Point (AP)” on page 68.

What is an Access Point (AP)?
An AP is a network device that bridges wired and wireless LANs, and corresponds to a wireless hub in a wired network. You can connect multiple wireless LAN installed computers to an AP.

2) Computer-to-computer (ad hoc)

This is also called a peer-to-peer network.

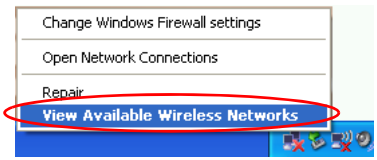
In computer-to-computer wireless networks, you can wirelessly connect 2 or more computers that have wireless LAN modules. For details, see “Connecting to computer-to-computer networks (peer-to-peer or ad hoc)” on page 70.

Connecting to an Access Point (AP)

This section describes how to connect to an AP. You can use the network when you are connected to an AP.

For more detailed information such as the network key (encryption key), ask your network administrator.

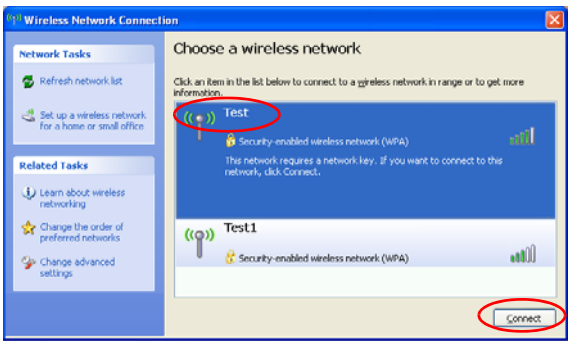
1. Right-click on the **Wireless Network Connection** ( ) icon on the taskbar, and select **View Available Wireless Networks**.



2. Select an AP (E.g. Test) to connect to and click **Connect**.

   If there is a configured network key for the AP to connect to, the Enter Network Key window appears.

   Enter the **Network Key** in the window and then click the **Connect** button.

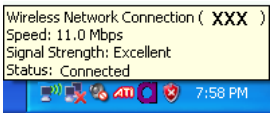

Wireless Network Connection
Network Tasks
Refresh network list
Set up a wireless network for a home or small office
Related Tasks
Learn about wireless networking
Change the order of preferred networks
Change advanced settings
Choose a wireless network
Click an item in the list below to connect to a wireless network in range or to get more information.
Test
Security-enabled wireless network (WPA)
This network requires a network key. If you want to connect to this network, click Connect.
Test1
Security-enabled wireless network (WPA)
Connect

When a network key is not defined for a selected AP, click on Link to display the warning message box. Then click Connect again in the box.

Now when **Connected** in AP is displayed, and you can access the network.

Checking the connection status

Move the mouse pointer over the Wireless Network Connection ( ) icon on the taskbar, and the connection status is displayed.



Connecting to computer-to-computer networks (peer-to-peer or ad hoc)

In computer-to-computer wireless networks, you can wirelessly connect 2 or more computers that have wireless LAN modules. Using this method, a computer that is not connected to the Internet can share the Internet by accessing another computer connected to the Internet. (Refer to "Sharing Internet Access" on page 79.)

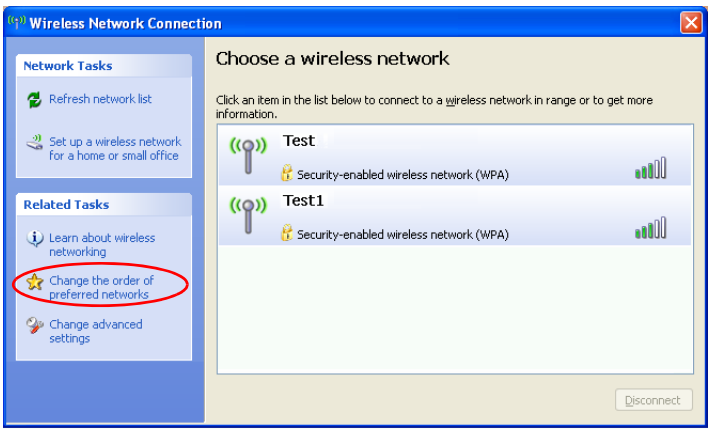
You can connect by completing the following steps:

- Step 1. Set up a computer-to-computer network on a computer.
- Step 2. Connect to the configured computer from other computers.

Step 1. Setting up a computer-to-computer network

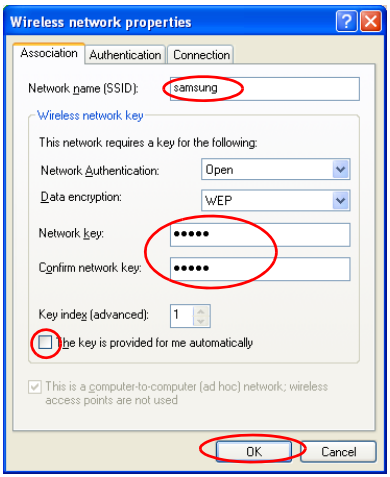
1. Right-click on the **Wireless Network Connection** ( ) icon on the taskbar, and select **View Available Wireless Networks**.

2. Click **Change the order of Preferred Networks**.


Wireless Network Connection
Network Tasks
Refresh network list
Set up a wireless network for a home or small office
Related Tasks
Learn about wireless networking
Change the order of preferred networks
Change advanced settings
Choose a wireless network
Click an item in the list below to connect to a wireless network in range or to get more information.
Test
Security-enabled wireless network (WPA)
Test1
Security-enabled wireless network (WPA)
Disconnect

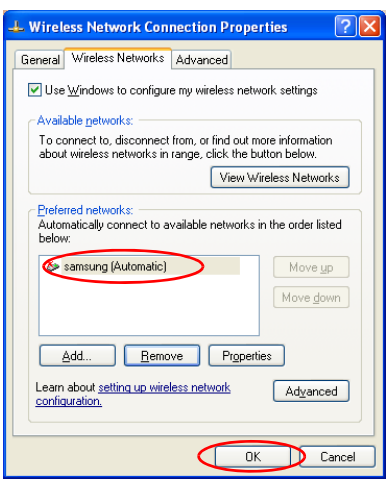
3. On the **Wireless Network** tab, click **Advanced**.
4. Clear 'Automatically connect to non-default network' check box, if it is selected. Select 'Computer-to-computer (ad hoc) networks only', and click **Close**.
5. In the **Wireless Networks** tab, click **Add**.

6. Enter the network name (e.g. samsung), and unselect 'The key is provided for me automatically'. Enter the encryption key in the Network key field, and click **OK**.



To prevent a network connection from an unauthorized user, it would be better to configure a network key (encryption key). A network key consists of 5 ~ 13 alphanumeric characters (e.g. magic), or of 10 ~ 26 hexadecimal numbers (a hexadecimal number is represented by numbers '0' to '9' or letters 'a' to 'f').

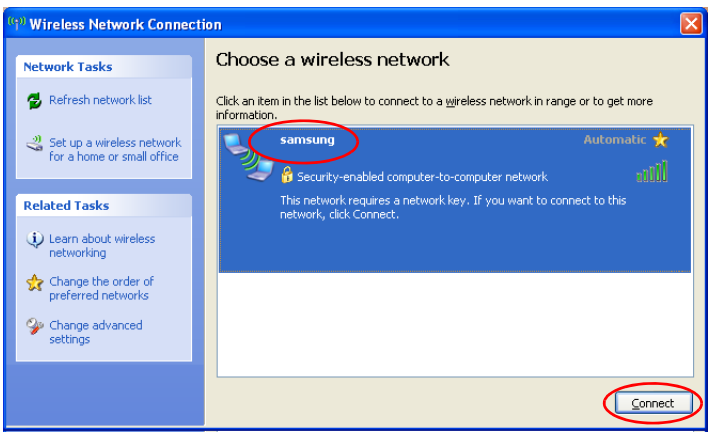
7. Check that the configured network name (e.g. samsung) is in the 'Preferred networks' item, and click **OK**.



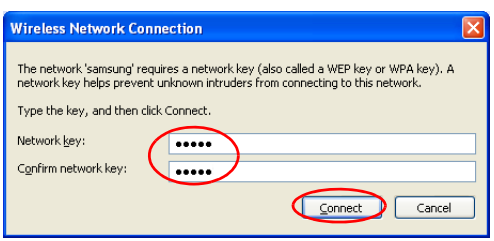
Now your wireless network setup has been completed.

Step 2. Connecting to the configured computer

1. Right-click on the **Wireless Network Connection** ( ) icon on the taskbar, and select **View Available Wireless Networks**.
2. Select the wireless network name (e.g. samsung) specified in "Connecting to computer-to-computer networks (peer-to-peer or ad hoc)" on page 70, and click **Connect**.


Wireless Network Connection
Network Tasks
Refresh network list
Set up a wireless network for a home or small office
Related Tasks
Learn about wireless networking
Change the order of preferred networks
Change advanced settings
Choose a wireless network
Click an item in the list below to connect to a wireless network in range or to get more information.
samsung
Automatic
Security-enabled computer-to-computer network
This network requires a network key. If you want to connect to this network, click Connect.
Connect

3. Enter a cryptographic key in the network key box and click **Connect**.

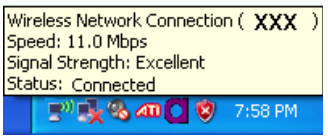

Wireless Network Connection
The network 'samsung' requires a network key (also called a WEP key or WPA key). A network key helps prevent unknown intruders from connecting to this network.
Type the key, and then click Connect.
Network key:
Confirm network key:
Connect
Cancel

If the network key is not configured in "Connecting to computer-to-computer networks (peer-to-peer or ad hoc)" on page 70, just click **Connect**, without any keystrokes.

When connected to the wireless network, the system displays **Connected** in the selected network of the Network Connection window.

Checking the connection status

Move the mouse pointer over the Wireless Network Connection ( ) icon on the taskbar, and the connection status is displayed.



Wireless Network Setup Using the Wireless LAN Setup Program

The procedures to connect to an access point using a wireless LAN configuration program are described. Since the wireless LAN configuration program is included in the **system software media**, the user has to install the program.

1. Insert the **system software media** into the CD drive and install the wireless LAN configuration program (PROSet).

   Select **System Software Media** > **User Installation** > **Wireless LAN Driver ReadMe**, click **ReadMe** and install according to the instructions.
2. Double-click on the wireless LAN program ( ) icon on the taskbar.

   Alternatively, click **Start** > **All Programs** > **Intel PROSet Wireless** > **Intel PROSet Wireless**.
3. In Available Networks, click on **Refresh**.
4. Select the name of an access point to connect to from the available network list and click on Connect.

   If a network does not appear, click on **Refresh**.
5. Enter a WEP key and click the **OK** button.

The Wireless Security Settings window may differ depending on the security settings of the AP.

Click the **Advanced** button to set up network authentication, data encryption, etc. For more security setting information, ask your wireless network administrator.

Refer to setting up the advanced settings by clicking on the **Advanced** button.

Network authentication: The network authentication options include an Open System and Shared Key. When selecting Open Systems, no authentication is applied (however, encryption is supported). When selecting Shared Key, a WEP key is used for authentication. The default setting is Open System.

Data encryption (WEP): The IEEE 802.11 WEP (Wired Equivalent Privacy) standard defines two levels of encryption, a 64-bit key (this is sometimes represented by 40bits) and a 128-bit key.

Key index: Select the current encryption key index used by the access point out of 1 to 4.

Using an encryption key: Click **Use pass phrase** to activate, and enter 5 (for 64-bit) or 13 (for 128-bit) alphanumeric characters (represented by 0-9, a-z, or A-Z).

6. The Done window appears, click **OK**.

When a wireless connection to an access point is established, the connection icon ( ) appears in front of the name of the connected profile.

Using Samsung Network Manager

Samsung Network Manager is a program that has been developed to enable users to use the network easily.

Samsung Network Manager provides the following features.

- **You can easily set up the network and printer settings.**
- **You can immediately use the network without defining new network settings again after moving locations.**
  By setting the network settings (IP address, printer settings, etc.) for each location, you can immediately access the network without following network setting procedures each time regardless of your location.
- **You can easily share Internet Access.**
  You can share your Internet connection by setting up a computer with 2 LAN interfaces (wired and wireless, or 2 wired LAN) as the sharing server. Then, you can access the Internet on a sharing client by connecting to the sharing server.
- **You can diagnose the network status.**
  You can diagnose the network status when the network is not properly connected.

Using the Network

This section describes the procedures to connect to the Internet by setting up a network. The setting up procedures include the procedures to add a printer to the network.

The setting up procedures are different for wired and wireless LAN connections.

To use a wireless LAN, there should be a wireless LAN AP available nearby.

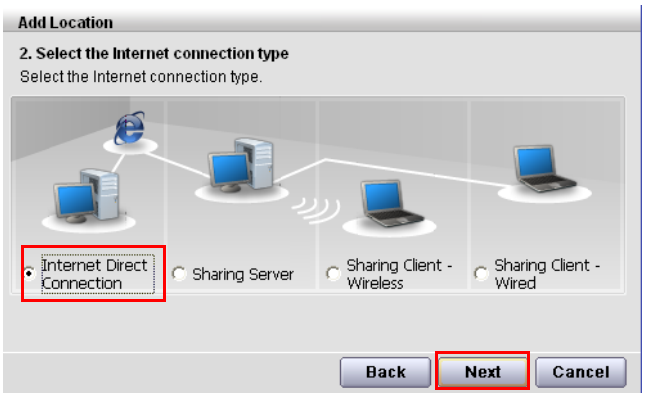
Setting Up a Network

1. To use a wired LAN, connect the LAN cable to the LAN port.

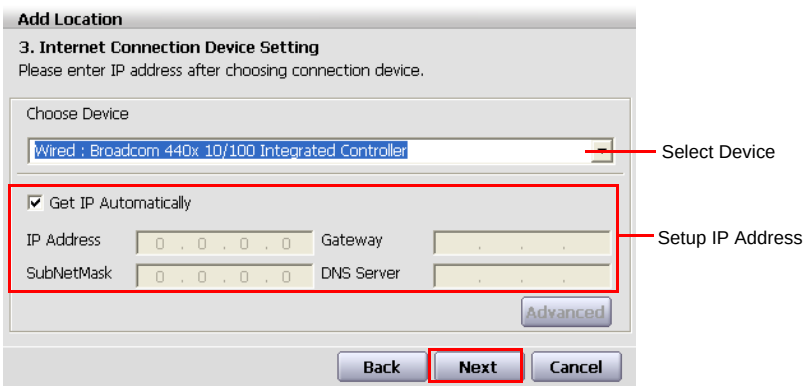
To use a wireless LAN, slide the Wireless LAN Latch into the ON position, if the wireless LAN is turned off.(p4)

When the wireless LAN is turned on, the Wireless LAN Operation LED ( ) lights up.

2. Run Samsung Network Manager.
   Select **Start** > **All Programs** > **Samsung** > **Samsung Network Manager** > **Samsung Network Manager** or double click the **Samsung Network Manager(**) icon on the Desktop.
3. Click the Add button.
4. Select a network location icon and enter the name of the location (e.g. Home). Click the **Next** button.
5. Select **Internet direct connection** and click the **Next** button.



6. Select the LAN device, setup the IP address and click the **Next** button.



Select Device

Select a device to be connected to the Internet. Select either Wired LAN or Wireless LAN.

Setting up the IP Address

To allocate an IP address automatically (DHCP), select **Get IP Automatically.**

To use a static IP address, unselect **Get IP Automatically** and enter an IP address. For IP address information, ask your network administrator.

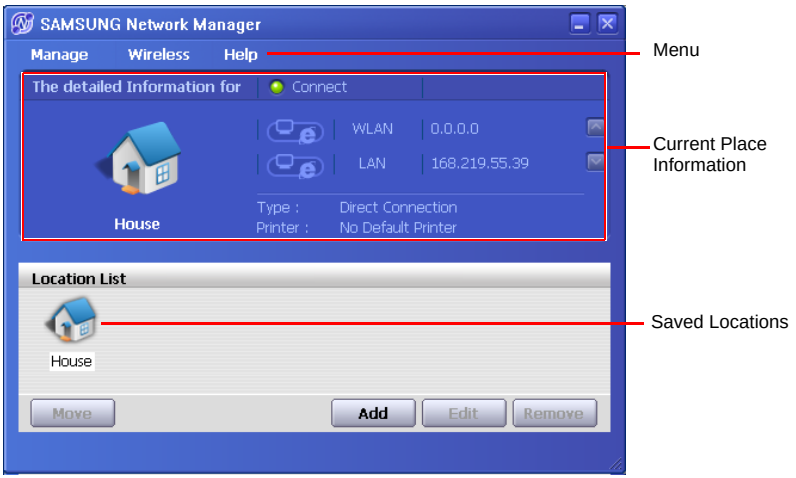
7. When the Printer Setting window appears, click **Finish**.
   To add a printer, click **Add Printer**. The Add Printer Wizard appears. Set up the printer according to the instructions displayed on the screen.
   When the printer has been added, click the **Show printer** button, select the newly added printer and then click the **Finish** button.

To not add a printer, select **No Default Printer** and then click the **Finish** button.

When the network setting is complete, the '**Do you want to move to newly added location now?**' message appears. If you select '**Yes**', the network settings for the added location are applied.

When the network settings for the added location are applied, the added place and the corresponding network connection information is displayed in **The detailed Information for window**.

When the network setting is complete, an icon for the added location is created within the Saved Locations window. Now you can use the Internet or add a new network location.

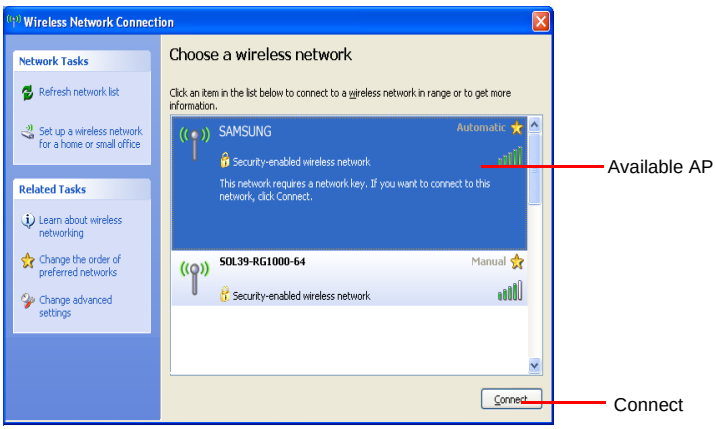


Wireless LAN AP Connection Procedures

To use a wireless LAN, first connect to a wireless LAN AP and then you can access the network even when moving location. Or moving location and then you can access the network even when connecting to a wireless LAN AP

1. Right-click over the **Wireless Network Connection** ( ) icon on the Taskbar and click **View Available Wireless Networks**.
2. Click **Search AP** from the **Wireless** menu to search for wireless LAN APs.

   Select an available wireless network (e.g. SAMSUNG) and click the **Connect** button. For information on available wireless LAN APs, ask your network administrator.


Wireless Network Connection
Network Tasks
Refresh network list
Set up a wireless network for a home or small office
Related Tasks
Learn about wireless networking
Change the order of preferred networks
Change advanced settings
Choose a wireless network
Click an item in the list below to connect to a wireless network in range or to get more information.
SAMSUNG
Automatic
Security-enabled wireless network
This network requires a network key. If you want to connect to this network, click Connect.
SOL39-RG1000-64
Manual
Security-enabled wireless network
Connect
Available AP
Connect

3. The network key (security key) input window appears.
   - If a network key has been set for the wireless LAN AP, enter the network key and click the **Connect** button. For the network key information, ask your network administrator.
   - If no network key has been set for the wireless LAN AP, click the **Connect** button without entering the network key.
4. When the computer is connected to the wireless LAN AP, the **Connected** message will appear on the Wireless Network icon in the Taskbar.

Using the network after moving location

By setting the network settings (IP address, printer setting, etc.) for each location, you can immediately access the network without performing the network setting procedures regardless of your location.

1. Run **Samsung Network Manager** when connected to the Internet.

2. Select an icon that represents the corresponding location from the Saved Locations window and then click **Move**.
3. When the network settings of the selected location are applied, the new location and the network connection information are displayed in **The detailed Information for window**.

Sharing Internet Access

This section describes the procedures to share Internet Access.

To share Internet Access, you first have to set a sharing server and a sharing client. When the setup is complete, you can access the Internet from the sharing client by connecting to the sharing server.

Sharing Server : A computer with a direct connection to the internet and a local network connection.

Sharing Client : A computer that uses the Internet by connecting to a sharing server without itself having a direct connection to the Internet.

You can connect a sharing server and a sharing client as follows.(See Figure 5 on page (p76))

	Sharing Server		Sharing Client
	External Internet Device	Client Device	
Connection 1	Wired LAN	Wireless LAN	Connect a sharing client with the
Connection 2	Wireless LAN	Wired LAN	device that is the same as the
Connection 3	Wired LAN	Wired LAN	client device of the sharing server.

For Connection 3, you have to connect a LAN card in advance.

To connect a sharing server and a sharing client using a wired LAN, connect the computers with a crossover LAN cable or network hub first.

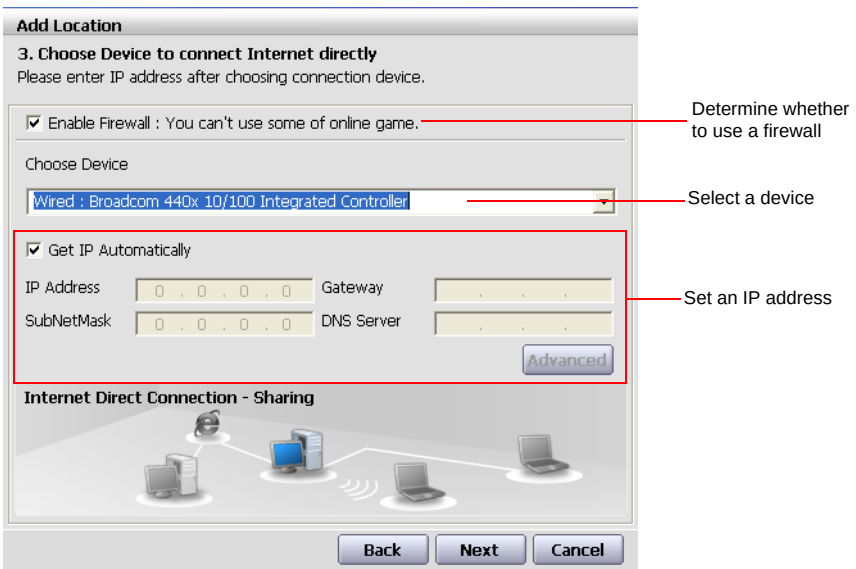
To use a wireless LAN, slide the Wireless LAN Latch into the ON position, if the wireless LAN is turned off.

When the wireless LAN is turned on, the Wireless LAN Operation LED ( ) lights up.

As an example, Internet sharing procedures for **[Connection 1]**, which connect the sharing server and the Internet through a wired LAN and connect the sharing server and the sharing client through a wireless LAN, are described below.

Setting Up a Sharing Server

1. Run **Samsung Network Manager** on the computer to be used as the sharing server.
2. Click the **Add** button.
3. Select a network location icon and enter the name of the location (e.g. Home). Click the **Next** button.
4. Select **Internet direct Connection for sharing** and click the **Next** button.
5. Set up the network device to be connected to the external Internet. Determine whether to use a firewall and select a network device to be connected to the external Internet (e.g. Wired LAN). Set the IP address and then click the **Next** button.



- To protect against external intrusion attempts, using a firewall is recommended.
- For more information on selecting a device and setting the IP address, refer to the description of item 6 of "Setting Up a Network" on page 75.

6. Select a network device to connect to the sharing client (e.g. wireless LAN) and click the **Next** button.

To Share Internet Access through a Wireless LAN

- In the Select Device field, select **Wireless**.
- In the **Wireless Connection Name** (e.g. Samsung) field, enter the network name.
- To use the network key (security key), select the "**Use Password ,,,**" option and enter a network key. Remember the network key because you have to re-enter the key on the sharing client to connect to the sharing server.

7. The setup information is displayed. Confirm the settings and click the **Next** button.
8. When the Printer Setting window appears, click **Finish**.

   For the printer setup procedures, refer to the description of item 7 of "Setting Up a Network" on page 75.

   When the Shared Server setting is completed, set up the shared client.

Setting Up the Sharing Client

1. Run **Samsung Network Manager** on the computer to be used as a sharing client.
2. Click the **Add** button.
3. Select a network location icon and enter the name of the location. Click the **Next** button.
4. Select **Internet Sharing** and click the **Next** button.

- To connect through a wireless LAN, select **Internet Sharing - Wireless**.
- To connect through a wired LAN, select **Internet Sharing - Wired**.

5. Confirm the network device to be connected to the server and click the **Next** button.

- To connect through a wireless LAN, enter the **wireless connection name** (e.g. Samsung) you entered in the sharing server. If you have set a network key (security key) for the sharing server, enter the network key.

6. The setup information appears. Confirm the information and click the **Next** button.
7. When the Printer Setting window appears, click **Finish**.

For the printer setup procedures, refer to the description of item 7 of "Setting Up a Network" on page 75.

When the settings are completed, you can use the Internet on the shared client.

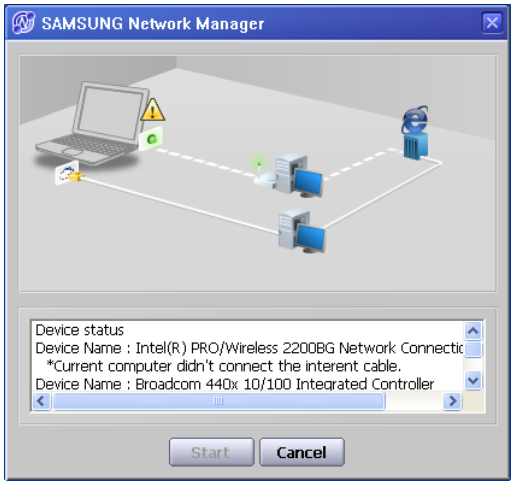
- To access the Internet from the sharing client, the sharing server has to be on.
- To use the Internet on the sharing client, select a sharing client icon from the **Location List** window and then click the **Move** button.
- If the connection is broken while using the Internet on the sharing client, click the **Ap Active** from the **Wireless** menu to reestablish the connection.

Network Status Diagnosis

You can diagnose the network status when the network is not properly connected.

1. Run **Samsung Network Manager**.
2. Select **Auto Diagnosis** from the **Manage** menu.
3. The Network Connections figure window appears. Click the **Start** button to start the network diagnosis.
4. When the diagnosis is complete, out of order devices are marked by the exclamation mark icon. For detailed device status, read the description in the lower part of the window.

   Reconnect and set up the device according to the diagnosis result.


SAMSUNG Network Manager
Device status
Device Name : Intel(R) PRO/Wireless 2200BG Network Connectio
*Current computer didn't connect the interent cable.
Device Name : Broadcom 440x 10/100 Integrated Controller
Start
Cancel

Using Network Services

While the computer is connected to the network, you can use network services to share files, folders, and printers.

Network services are provided for the computers that are connected to the network through wired or wireless network connections. For details, see “Connecting Through a Wired LAN” on page 65 and see “Connecting Through a Wireless LAN (Optional)” on page 67.

Sharing files or folders

This section describes how to share files and folders between computers connected to the network.

To share files, complete the following procedures:

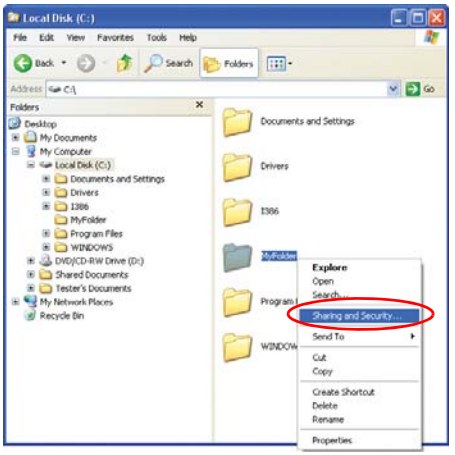
- Step 1. Configuring the sharing of files and folders on a computer.
- Step 2. Accessing shared files and folders from another computer.

When a file or folder is shared, anyone connected to the network can open and delete the shared file or folder.

Configure a file sharing network only when the network is secure, and do not share important data.

Step 1. Configuring Sharing

1. Right-click the target file or folder to share in My Computer, and select **Sharing and Security**.



2. Click 'IF you understand the security risks but want to share files without running the wizard, click here'.

It has the same security effect as that of the 'Network Setup Wizard'.
This screen does not appear if Internet Sharing Network Wizard has been installed in the computer-to-computer wireless network environment.

3. Select 'Just enable file sharing', and click **OK**.
4. In the 'Network sharing and security' field, select 'Share this folder on the network', enter the share name, and click **OK**.

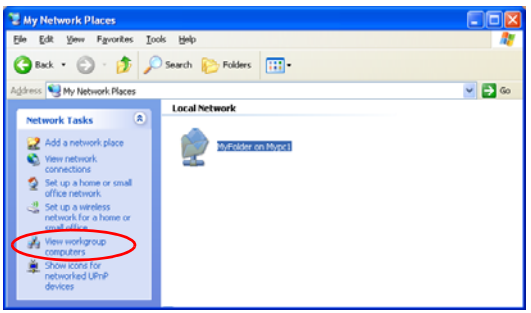
Be cautious when selecting 'Allow network users to change my files' since other network users can change the files in the shared folder.

The file and folder sharing configuration has been completed.

Step 2. Using Shared Files or Folders

This section describes how to access shared files or folders if your computer is a member of the same workgroup.

1. Double-Click **My Network Places** of desktop under Other Places.
2. Click '**View workgroup computers**', and click the desired computer to access the shared file.


My Network Places
File Edit View Favorites Tools Help
Back Search Folders
Address My Network Places
Go
Network Tasks
Add a network place
View network connections
Set up a home or small office network
Set up a wireless network for a home or small office
View workgroup computers
Show icons for networked UPnP devices
Local Network
MyFolder on Mypc1

If your computer is a member of another workgroup:

1. Click Other Places > Microsoft Windows Network.
2. Click the desired workgroup.
3. Click the desired computer to display the shared files or folders.

Sharing Printers

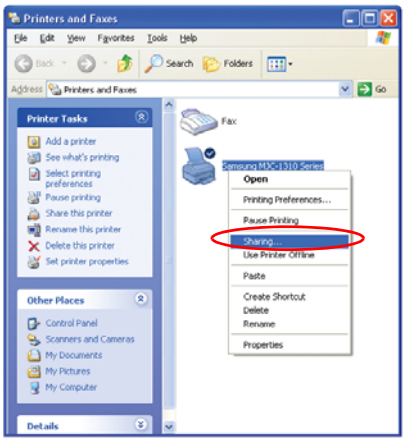
This section describes how to share a printer between computers connected to a network.

To share a printer, complete the following procedures:

- Step 1. Configure printer sharing in the computer connected to the printer.
- Step 2. Add and use the shared printer in other computers on the network.

Step 1. Configuring Printer Sharing

1. From the computer connected to the printer, click **Start > Printers and Faxes**.
2. Right-click the printer you want to share, and click **Sharing**.

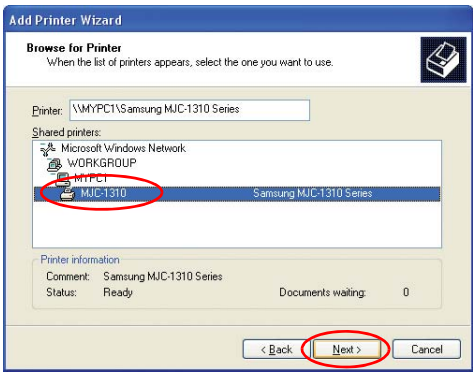


3. Select 'Share this printer', enter a share name for the shared printer, and click **OK**.
4. In the Printers and Faxes window, you will find the printer icon has been changed to another icon on a hand.

Step 2. Adding and Using a Shared Printer.

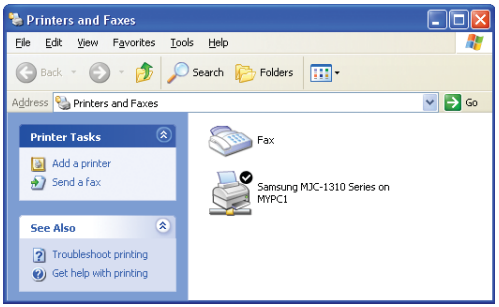
1. From a different computer that wants to use the shared printer, click **Start > Printers and Faxes**.
2. Click **Add a printer**.
3. In the Add Printer Wizard, click **Next**.
4. Select 'A network printer, or a printer attached to another computer', and click **Next**.
5. Select 'Browse for a printer', and click **Next**.

6. Select the workgroup or computer, select the desired printer, and click **Next**.



If you cannot find the desired printer, try again after a while.

7. Read the warning about a shared printer, and click **Yes** to install the shared printer.
8. Select **Yes** for 'Do you want to use this printer as a default printer?', and click **Next**.
9. Click **Finish**.
10. When the printer sharing configuration has been completed, the shared printer appears in the Printers and Faxes window.



Now you can print using the shared printer even if your computer is not directly connected to a printer.

Using Bluetooth Devices (Optional)

Bluetooth is a wireless communication technology that allows access to nearby devices such as computers, mobile phones, printers, keyboards or mice without a cable connection. Bluetooth enables file transmissions, Internet access, a private area network function, and access to a keyboard, mouse and printer between devices supporting the Bluetooth function without a cable connection.

Before Starting!
The Bluetooth function is only available between devices supporting Bluetooth (computers, mobile phones, PDAs, printers, etc.), and the function may be restricted depending on the device profile.

The Bluetooth function is optional and may not be supported depending on your model.

Compatibility with a Bluetooth device not certified by a Bluetooth certification or logo is not guaranteed.

Bluetooth Functions

- **File Transmission ( )**

  You can exchange files between 2 Bluetooth devices. You can exchange files with other computers, mobile phones, PDAs, etc.

- **Network Access ( )**

  You can connect to another computer using the Bluetooth function as if accessing a wireless LAN in Ad-Hoc mode or connect to the Internet through an AP or Internet Connecting Sharing Server.

- **Network Access through a Phone Connection ( )**

  You can connect to the Internet through a Bluetooth mobile phone.

- **Data Sync (Synchronization) ( )**

  You can synchronize the PIMS data (Outlook E-mail address data) with mobile phones, PDAs, notebook computers, etc. supporting Bluetooth.

- **Electronic Business Card (Vcard) Exchange ( )**

  You can exchange electronic business cards with mobile phones, PDAs, notebook computers, etc. supporting Bluetooth.

- **Sound Output ( )**

  You can listen to audio from the computer through another Bluetooth device or listen to audio of another Bluetooth device through the computer.

- **HID Connections ( )**

  You can connect a keyboard, mouse, joystick, etc. supporting Bluetooth.

To use the Bluetooth function, refer to the online help of the corresponding Bluetooth device.

Bluetooth Software Setup

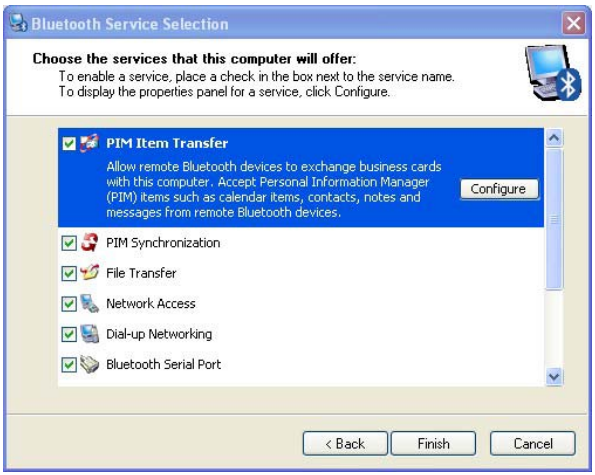
Bluetooth software is installed on computers supporting Bluetooth.

For first time use, configure the Bluetooth software as follows.

1. Double-click the My Bluetooth Environment icon ( ) on the Desktop.
2. Click the **Next** button to start the configuration.

In the configuration steps, enter a device name to be displayed in the Bluetooth Manager program. Enter a **Name** in the Computer Name field and select **Laptop** for the Computer Type field.

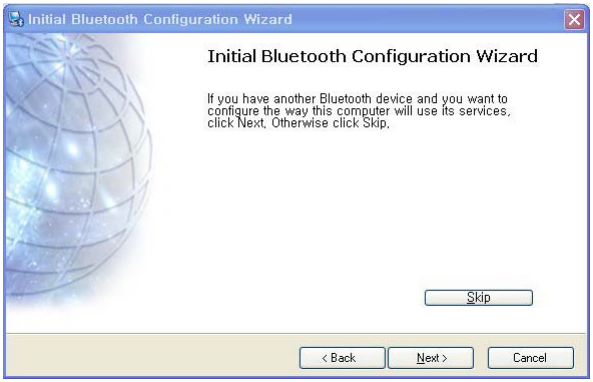
Also, a step appears for selecting the services to be provided by your Bluetooth device for other Bluetooth devices. At this point, the program automatically detects available services and displays them as selected. It is recommended keeping the default selection.


Bluetooth Service Selection
Choose the services that this computer will offer:
To enable a service, place a check in the box next to the service name.
To display the properties panel for a service, click Configure.
PIM Item Transfer
Allow remote Bluetooth devices to exchange business cards with this computer. Accept Personal Information Manager (PIM) items such as calendar items, contacts, notes and messages from remote Bluetooth devices.
Configure
PIM Synchronization
File Transfer
Network Access
Dial-up Networking
Bluetooth Serial Port
< Back
Finish
Cancel

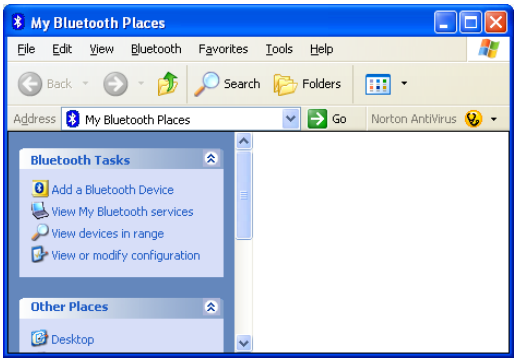
If you change the service settings, the drivers necessary for the additionally selected services are installed.

At this point, a warning message may appear informing you that there is no Microsoft logo. Since it does not affect the operation, continue the installation.

3. If the driver installation is complete, the next step proceeds which searches for nearby Bluetooth devices. Since you do not have to search while setting up, click the **Skip** button and finish the settings.


Initial Bluetooth Configuration Wizard
Initial Bluetooth Configuration Wizard
If you have another Bluetooth device and you want to configure the way this computer will use its services, click Next. Otherwise click Skip.
Skip
< Back
Next >
Cancel

4. If the settings are complete, the My Bluetooth Environment window appears.



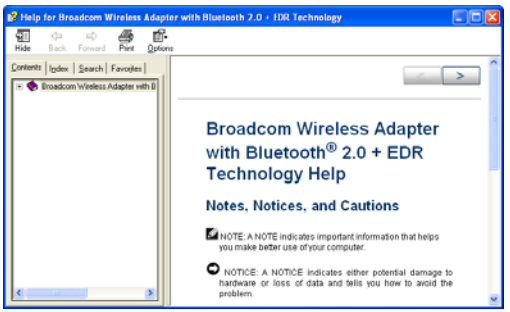
Using Bluetooth

Describes how to exchange files between computers supporting Bluetooth and how to use other Bluetooth devices.

Bluetooth Help

Bluetooth Help provides detailed procedures on using Bluetooth functions.

Double-click on **My Bluetooth Settings** on the **Desktop** and click **Help** > **Bluetooth Help** from the top menu.

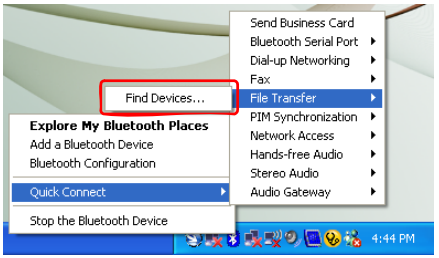

Help for Broadcom Wireless Adapter with Bluetooth 2.0 + EDR Technology
Hide
Back
Forward
Print
Options
Contents
Index
Search
Favorites
Broadcom Wireless Adapter with Bluetooth® 2.0 + EDR Technology Help
Notes, Notices, and Cautions
NOTE: A NOTE indicates important information that helps you make better use of your computer.
NOTICE: A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

Select Start > Help and Support > Networking and the Web > Networking > Wireless networking > Bluetooth devices (wireless) to view Windows Help.

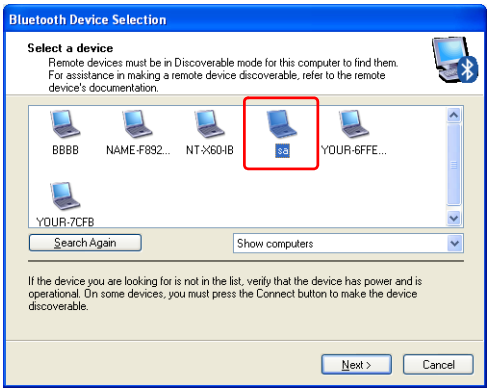
Exchanging Files between Bluetooth computers

The procedures to exchange files and folders between Bluetooth computers are described below.

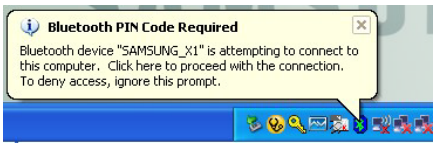
1. On the computer which is sending a file (hereafter Computer A), right-click the **Bluetooth icon** ( ) on the taskbar and select **Quick Connection > File Transmission > Search for Device**.

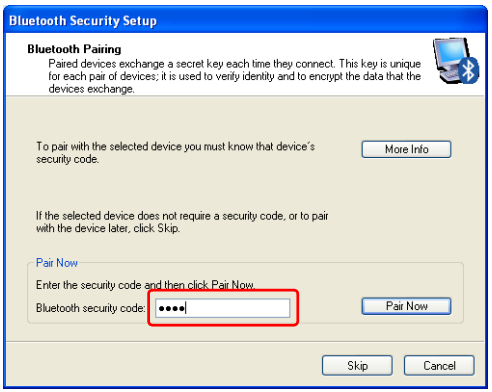


2. In the Select Device window, click on a computer to be connected (hereafter Computer B).


Bluetooth Device Selection
Select a device
Remote devices must be in Discoverable mode for this computer to find them. For assistance in making a remote device discoverable, refer to the remote device's documentation.
BBBB
NAME-F892...
NT-X60-IB
sa
YOUR-6FFE...
YOUR-7CFB
Search Again
Show computers
If the device you are looking for is not in the list, verify that the device has power and is operational. On some devices, you must press the Connect button to make the device discoverable.
Next >
Cancel

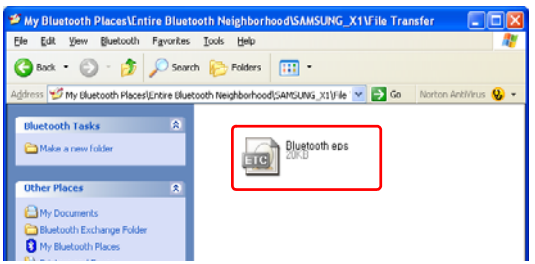
3. If the Bluetooth Security Settings window appears, enter the **Bluetooth Security Code** (or **Bluetooth PIN**) and click on **Start Pairing**.


Bluetooth PIN Code Required
Bluetooth device "SAMSUNG_X1" is attempting to connect to this computer. Click here to proceed with the connection.
To deny access, ignore this prompt.


Bluetooth Security Setup
Bluetooth Pairing
Paired devices exchange a secret key each time they connect. This key is unique for each pair of devices; it is used to verify identity and to encrypt the data that the devices exchange.
To pair with the selected device you must know that device's security code.
More Info
If the selected device does not require a security code, or to pair with the device later, click Skip.
Pair Now
Enter the security code and then click Pair Now.
Bluetooth security code:
Pair Now
Skip
Cancel

The **Bluetooth PIN Code** is a password used for the connection between two Bluetooth devices, the user just enter the same PIN Code (E.g. same numbers) on both Bluetooth devices to make a connection.

4. After a short while, the **Bluetooth PIN Code required** dialog box appears on Computer B, enter the same code entered in Step 3 above.
5. If the FTP File Access Privilege Request window appears on Computer B, click on the window. If the Select Access Permission window appears, click the **OK** button.
6. The file transmission window appears on computer A. Drag files or folders to send onto the window, and the files or folders are automatically transmitted.



7. If the file transmission is complete, close the File Transmission window.

   The received files are saved in the C:\Documents and Settings\[user name]\My Documents\Bluetooth Exchange folder.

Connecting Keyboard, Mouse, Joystick and Headset devices

The procedures to use Bluetooth HID devices (keyboard, mouse, joystick, etc.) or a headset, etc. on the computer are described below.

The Bluetooth PIN Code is a password used for the connection between two Bluetooth devices, the user simply enters the same PIN Code on both Bluetooth devices to make a connection.

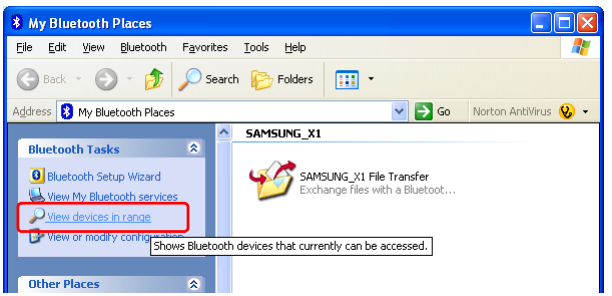
1. Turn on the Bluetooth function on the device to connect to (mouse, keyboard, joystick or headset).

   Some devices have a button to turn on the Bluetooth function, so refer to the corresponding device manual.

2. Double-click on the **My Bluetooth Settings icon** ( ) on the Desktop.

3. If the **My Bluetooth Settings** window appears, click on **View Devices within Coverage**.

   If the device to connect to appears, click on the device. (E.g. mouse)



If the device does not appear, click the **View Devices within Coverage**. If the device has not appeared yet, since this menu changes to **Search Devices within Coverage**, click the **Search Devices within Coverage** to show the device.

4. If the **Bluetooth PIN Code** input window appears, enter a PIN code referring to the manual of the corresponding device. The PIN code for an HID device is generally printed in the manual of the corresponding device.
5. If you enter the PIN code, you can immediately use the device.

A Bluetooth keyboard and mouse work only in Windows. They will not work in MS-DOS mode or in Hibernation mode.

Stopping a Bluetooth device

Right-click the **Bluetooth icon** ( ) on the taskbar and select **Stop the Bluetooth Device**.

To use a Bluetooth device after stopping it, select **Start Bluetooth device** as above.

Usage Instructions

- Bluetooth devices must be within a 3m (10 ft.) distance.
- For a better communications environment, use the devices in an open space where no wall or obstacle exists.
- For a telephone connection, data synchronization, electronics business card exchange, fax transmission/reception, sound related functions, and serial port function, you can connect with only one Bluetooth device.
- Using the network connection or file transmission function, multiple Bluetooth devices can be connected. However, since connecting with multiple devices may slow down the data rate or make the connection unstable, connecting with one device at a time is recommended.
- The Bluetooth function of a Bluetooth PDA, mobile phone, mouse or keyboard may be turned off. To use them in connection with a Samsung computer supporting Bluetooth, you must check if the Bluetooth function of the device to connect to is turned on.
- For the procedures on turning on the Bluetooth function of a device, refer to the manual of the device.
- The services provided by Bluetooth devices may vary depending on their capability. For the services provided by Bluetooth devices, refer to the manual of the device.

Customizing Your Computer

Using System Setup

The System Setup (BIOS) program enables you to configure your computer hardware and set security and power-savings options. The settings you choose are stored in battery-maintained CMOS memory that saves the information even when the computer's power is turned off. When your computer is turned back on, it is configured with the values found in this memory.

Run System Setup if you get a message prompting you to run the program. You may also want to run System Setup, particularly the first time you use your computer, to set the time and date, use security or power-management features, or alter the settings of other features.

BIOS Caution:
If you are not familiar with BIOS setup and what the parameters mean, seek help from a person who is knowledgeable. Incorrect settings may cause your system to malfunction or "Crash".

Your computer's version of System Setup may not include all the fields listed here or may include additional fields. Field names and order of appearance can vary according to the version of the BIOS (basic input/output system) on your computer.

Starting System Setup

To start System Setup, turn on your computer and then press **<F2>** and hold until the System Setup screen appears.

Table 2. System Setup Menus

Menu	Function
Main	Changes the basic system.
Advanced	Configures advanced features on your computer.
Security	Enables security features, including passwords.
Boot	Specifies the order of boot devices and configures boot features.
Exit	Specifies how to exit System Setup.

To open the menu you need to use, use the left or right arrow keys to select the menu name.

Table 3. System Setup Navigation Keys

Navigation Key	Function
<F1>	Displays the General Help window.
<Esc>	Exits the current menu.
< ↑ > or < ↓ >	Moves the cursor up and down between fields.
< ← > or < → >	Selects different menus. Pressing the <**Esc>**key at the Main menu brings you to the Exit menu.
<F5>	Scrolls backwards through the options for the highlighted field.
<F6>	Scrolls forward through the options for the highlighted field.
<F9>	Sets the parameters for the current menu to their default values.
<F10>	Save changes and exit system setup.
<Enter>	Executes commands or opens a submenu.

Changing Booting Priority

You can select the booting priority among the devices such as the hard drive, CD-ROM drive, etc. The following example describes how to configure the hard drive as the first booting device when the CD-ROM drive is configured as the first booting device by default.

1. Select the **Boot** menu in System Setup.
2. Press **<Enter>** on **Boot Device Priority** item.
3. Use < ↓ > key to move to the **Hard Drive** item, and press **<F6>** until it is at the very top.
4. Press **<F10>** to save the changed configuration, and exit System Setup.

   Now you can boot the system with the hard disk drive as the first booting device.

Configuring the Password

Setting the Supervisor Password

By configuring a supervisor password, you can restrict system access to authorized users only.

Do not lose or forget your password. If you have forgotten your password, contact the Samsung service center.

1. Select the Security menu in the System Setup. To enter System Setup, see “Starting System Setup” on page 98.
2. On the **Set Supervisor Password** item, press **<Enter>**.
3. Enter a password, press **<Enter>**, re-enter the password for confirmation, and press **<Enter>** again.
4. When a message confirming the password configuration appears in the [Setup Notice] window, press **<Enter>**.

Setting the User Password

You can configure user passwords so that other users can use the system.

Before configuring a user password, a supervisor password must have been configured.

Users can start the system with their user password, but cannot enter into the System Setup.

Deactivating the supervisor password also deactivates the user password.

On the **Set User Password** item, press **<Enter>**, and complete step 3-4 of "Setting the Supervisor Password".

Activating the Booting Password

Before activating the booting password, the supervisor password must have been configured.

Set the **Password on boot** option to [Enabled].

From now on, system booting will not proceed without the password.

Setting up a Hard Disk Drive Password

A supervisor password must be set using the Set Supervisor Password menu.

If you set a password for a hard disk drive, it cannot be accessed from another computer.

Press Enter in the 'Set HDD 0 Password' item and define a password as described in Step 3 of the Setting up the Supervisor Password.

Changing the hard disk drive password
For security purposes, you have to reboot the system by pressing the **Power** button to change the hard disk drive password.

If you cannot change the hard disk drive password or **HDD Password Frozen** appears when clicking the **Security > HDD 0 Password** item in BIOS SETUP, press the **Power** button to turn it on again and then try again.

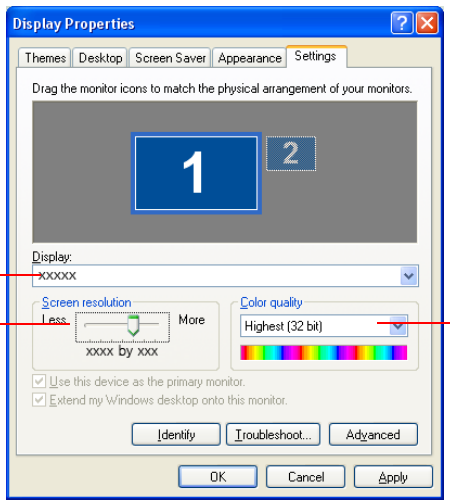
Deactivating the Password

1. On the password to delete, press <**Enter**>. (e.g. supervisor password)
2. Enter the current configured password, and press <**Enter**>.
3. Leave the 'Enter New Password' and 'Confirm New Password' field empty, and press <**Enter**> to deactivate the password.

Configuring Resolution and Color Depth

Screen resolution is the number of pixels displayed on the screen. High resolution makes the overall screen area large, although individual items appear small. Color quality is determined by the number of bits used to represent a pixel on the screen. High color quality displays more number of colours on your screen.

1. Select **Start > Control Panel > Appearance and Themes > Change the screen resolution**.
2. Make changes on the **Settings** tab of the [Display Properties] dialog box.



You can view the graphics chipset.

To change your screen resolution, move the slider to select an appropriate resolution.

To change the number of colors displayed on a monitor, select an appropriate colour quality.

3. When you have completed configuration, click **Apply**.

The following resolution and color quality settings are recommended depending on the LCD screen of the system.

- WXGA: Screen resolution: 1280x 800, Color quality: Very high (32bit)
- WXGA+: Screen resolution: 1440x900, Color quality: Very High(32bit)
- WSXGA+: Screen resolution: 1680 x 1050, Color quality: Very high (32bit)

Using External Display Devices

Using external display devices such as monitors, projectors, TVs, etc allows you to view screen images alternatively or simultaneously on each device. Additionally, you can extend the screen onto two display devices to use a larger workspace. Using external display devices is especially useful when you are giving a presentation or watching a movie through your TV.

Switching Display Devices Using the Shortcut Key

You can watch the screen through either the LCD or an external display device, or you can even watch the screen through both the LCD and an external display device simultaneously.

1. Connect the external display device (e.g. a monitor or a projector) to the corresponding port of the system. To connect a TV, connect the TV to the TV output port of the system.
2. If you press the **<Fn>**+**<F4>** key combination once, the **Samsung Display Manager** screen appears where you can select a screen.

   Whenever you press the **<F4>** key while pressing the **<Fn>** key, selection moves to the next item. Select a mode.

Example) Select LCD+CRT

LCD: Notebook Screen

CRT: External Monitor Screen

LCD+CRT: Notebook + External Monitor Screen

TV: TV Screen (connected to the TV OUT port)

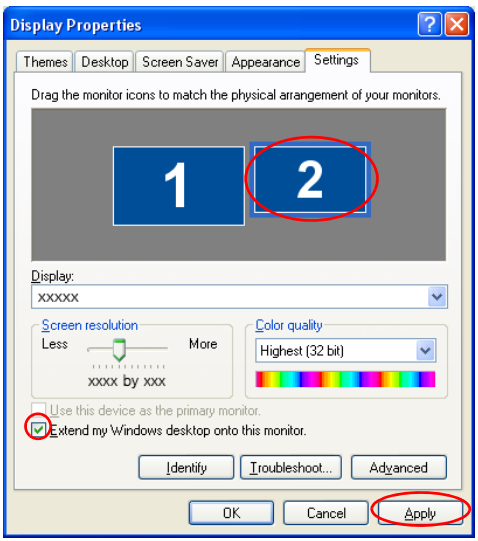
In the MS-DOS environment, the picture is displayed to the LCD > CRT, in turns, and output to a TV/DVI is not supported. In full screen MS-DOS mode of Windows, you cannot change the display device by pressing the shortcut key.

Using Dual View to View Extended Screen

You can expand the screen into two display devices and work conveniently in separate workspaces.

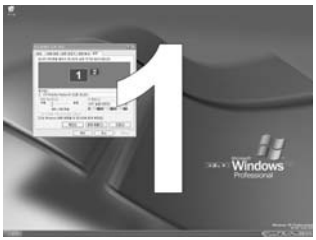
In Dual View mode, you can select the screen resolution and colour quality for each display device, as if there were two separate graphics cards.

1. Connect the external display device (e.g. a monitor or a projector) to the corresponding port of the system. To connect a TV, connect the TV to the TV output port of the system.
2. Press touchpad right button on the desktop, click **Properties**, and then click the **Settings** tab.
3. Click the monitor '**2**' icon, select the 'Extend my Windows desktop onto this monitor' check box, and then click **Apply**.



4. When the configuration is complete, click **Identify** on the left side of Troubleshoot. The primary display device(the LCD) is indicated as '**1**', and the secondary display device is indicated as '**2**'.

Now you can view the screen through two monitors.



1 : Primary

2 : Secondary

When you use Dual View, configuring the LCD as the 'Primary' monitor is recommended.

If the screen of the secondary display device is displayed at 640x480 pixels, with 256 colours, change the settings to the desired screen resolution and colour quality in the [Display Properties] dialog box.

When Dual view is not properly set up, refer to Q&A. (p126)

Deactivating Dual View Mode

Click the monitor '**2**' icon, clear the 'Extend my Windows desktop onto this monitor' check box, and then click **Apply**.

To move a window between display devices in Dual View mode
Click the title bar of the window in the primary display device (1, the LCD), and drag it to the secondary display device (2). The window is moved to the secondary display device.

System Management

Using Power Management Options

Your computer includes **Power Management** options that can help the battery charge last longer and extend the life of the battery. Power-management options will slow down or shut off system components when the components are not being used.

Power management may slow down system performance. Your computer runs fastest with the power cord attached, whereby power management is disabled.

In the next sections, basic and advanced methods of power management will be discussed.

Basic Power Management Schemes

This section discusses the basic schemes of power management when the computer is operating on battery power or using AC power.

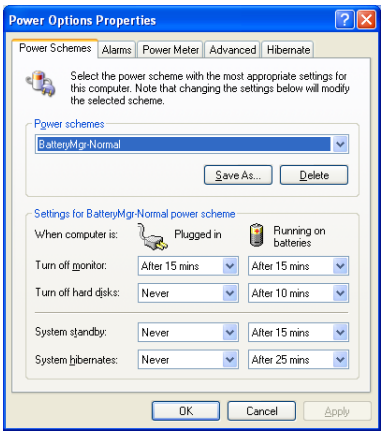
Standby vs. Hibernation
Hibernation is a state where the contents of memory are stored in a special file on the hard disk, and Standby simply keeps a small holding current through the memory to keep the data. You are more likely to sustain loss of data in Standby mode so it is recommended to save all open files before entering Standby.

Changing Devices:
Do not change PC Cards while in standby or hibernate modes.

To enter the power management window complete the following:

1. Click **Start** > **Control Panel** > **Performance and Maintenance**.
2. Click icon to display the **Power Options Properties** window.

3. Click the **Power Schemes** tab to display the basic power management options.



By default, the power scheme is configured to BatteryMgr-normal mode. BatteryMgr-normal mode extends the battery life and optimizes the Intel Speedstep function. Since the CPU power consumption is automatically optimized to conserve power when the computer is operating on battery power, an application may be executed slower than when it is operating on AC power.To use BatteryMgr-normal mode after reinstalling Windows, install the Battery Manager program using the system software Media.

4. Select the time that you wish each of the following actions to occur in **Battery** and **AC power** mode.
   - Turn off monitor
   - Turn off hard disks
   - System standby
   - System hibernates

Turning off the monitor and HDDs will save a substantial amount of battery power, therefore when in battery only mode select the shortest time practical.

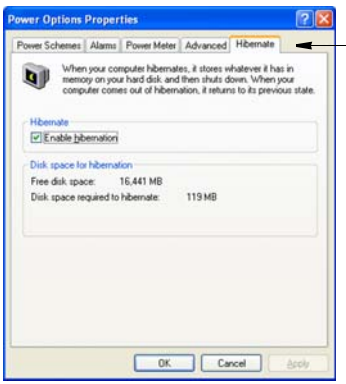
You can also reserve Turning Computer Off, Hibernation state, Hold Mode, etc. by selecting **System > Computer Scheduling** in the EasyBox program. (see “Using EasyBox” on page 37.)

If you change the power settings in the Battery Manager program, the settings of the '**Power Options Properties**' window are automatically changed accordingly ("Using the Battery Manager" (p113)).

Hibernate Mode (*Power Management or Manual Method*)

When hibernation is used, your computer turns off and when you power up again, everything is restored exactly as you left it—including programs and documents you may not have saved or closed. Everything in memory gets saved to the HDD, and the monitor and hard disk get turned off.

If You Reinstall Windows:
You should re-establish hibernate in power options by opening **Power Options Properties** window and click on the **Hibernate** tab then click "Enable Hibernation".


Power Options Properties
Power Schemes
Alarms
Power Meter
Advanced
Hibernate
When your computer hibernates, it stores whatever it has in memory on your hard disk and then shuts down. When your computer comes out of hibernation, it returns to its previous state.
Hibernate
Enable hibernation
Disk space for hibernation
Free disk space: 16,441 MB
Disk space required to hibernate: 119 MB
OK
Cancel
Apply

Hibernate Tab

Frequent Interruptions:
If you experience frequent interruptions, you might also consider putting your computer into automatic hibernation after a specified number of minutes using the power management options.

Standby Mode (*Power Management or Manual Method*)

Standby is used mainly for conserving battery power in your notebook computer. It also gives you the benefit of getting right back to your work without waiting for the computer to restart. Standby turns off your monitor and hard disks, placing your entire system in a low-power state. When you return to your computer, restores your desktop exactly as you left it. It is recommended that you do not enter standby mode with less than 20% battery power.

5. Click **OK** to set your power management options and close the window.

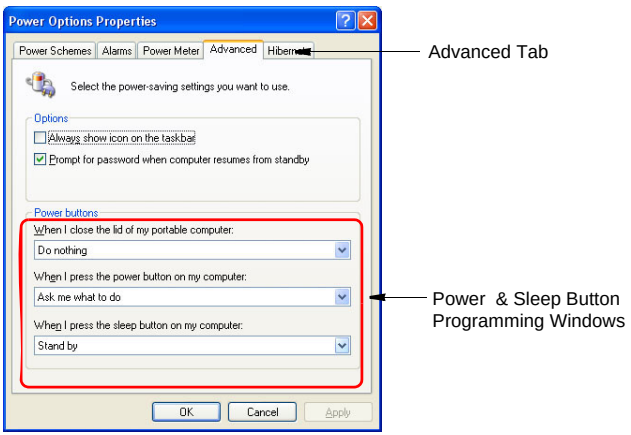
Rest Key:
The manual **<Fn>+<Esc/ >** key combination will not activate Standby or Hibernate modes while you are playing a multimedia program or have an active USB device connected.

Advanced Power Management Schemes

This section discusses the advanced power management schemes. There are two buttons that you can use to manually conserve power.

To enter the power management window complete the following:

1. Click **Start** > **Control Panel** > **Performance and Maintenance**.
2. Click icon to display the **Power Options Properties** window.
3. Click the **Advanced** tab to display the advanced power management options.



4. Select the mode (**Do nothing/Ask me what to do/Standby/Hibernate/Shut down**) assigned to the Power button and/or Rest <Esc/ ♪ > key. Also select the action (**Do nothing/Standby/Hibernate**) associated with closing the computer lid.

The “Rest” key is assigned to the <Fn+Esc/ ♪ > key combination. "Basic Power Management Schemes" on page 106 for a better understanding of Standby and Hibernate modes.

5. Click **OK** to set your power management options and close the window.

You can return to normal operation after you have used one of the “Power Management” buttons by quickly pushing and releasing the **Power** button.

Using the Battery

Please refer to the following instructions when running the computer on battery power without connecting the AC power.

Precautions

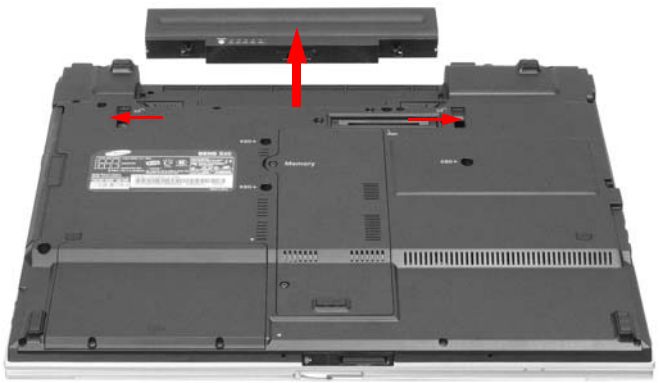
- Use only chargers specified in the User Manual.
- Never heat the battery pack, put it near or in a fire or use at a temperature higher than 60°C, as this may cause fire.
- Never cause a short circuit between the battery pack terminals or disassemble the battery pack.
- Carefully read and follow the precautions printed on the battery and the safety instructions in the User Manual before using the battery.

Please read the instructions on the battery before use.

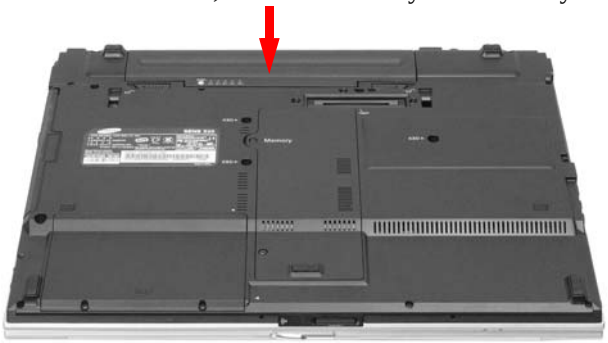
Please refer to the system operation environment (p156) of this manual and operate and store the battery at room temperature.

Ejecting and Attaching Battery

1. Shutdown the system and close LCD.
2. Put the computer upside down on a flat surface.
3. Pull the two battery latches outward.( ), then remove the battery.



4. To install the battery again, slide the battery into the system as below. The battery latches move inward, and fix the battery automatically.



Monitoring the Battery Charge

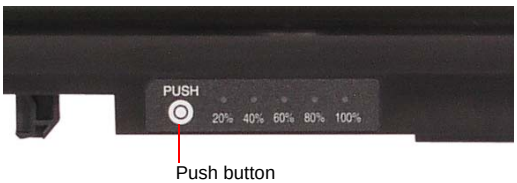
You can view the battery charge status by completing the following procedures.

To use the shortcut key to view

If you press the **<Fn>**+**<F2/** ◩**>** key combination on the keyboard, the remaining battery charge appears on the screen for a while. It appears only when the Samsung Display Manager program is installed on your computer.

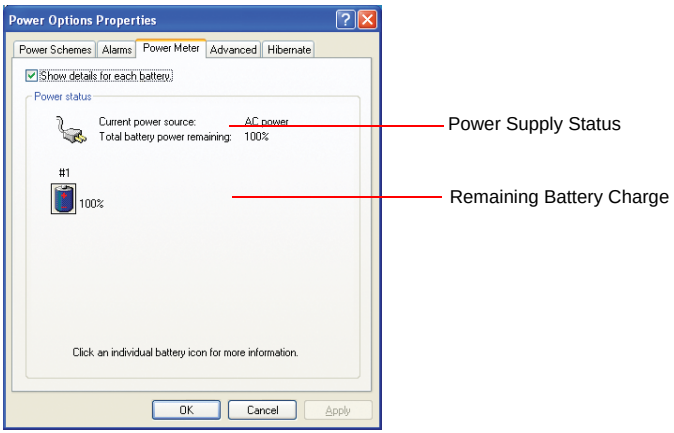
To view on the battery

Click the PUSH button on the battery. The remaining battery charge (%) will be displayed.



To view through the Control Panel

Select **Start** > **Control Panel** > **Performance and Maintenance** > **Power Option** > **Power Measure** tab.Then you can view the current power source and the current remaining battery charge.



Using the battery

Battery is an expendable supply, so when you use it for a long time, the capacity/battery life is shortened. If the battery life is reduced to under half of the initial time, we recommend that you purchase a new battery to use.

Battery Warning

You will hear an alarm when the remaining battery charge is under 10%. Connect the power cable or turn off the computer and install a fully charged battery.

When the remaining battery charge is under 3%, the computer automatically saves current work and turns off. This may be different according to the settings in **Control Panel > Performance and Maintenance > Power Options > Alarms** tab.

Extending the battery use time

Decreasing the LCD Brightness

Decreasing the LCD brightness by pressing the <Fn>+< ☼▾ > key combination on the keyboard or adjusting the brightness in the Battery Manager program extends the battery use time.

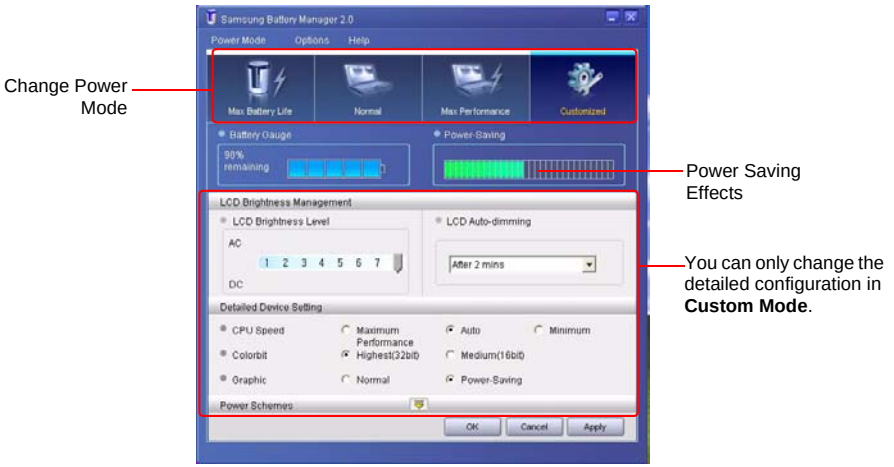
Decreasing the LCD brightness by one level extends the battery use time by 3~5% (10~20 minutes). (The battery use time is determined by the corresponding model.)

Using the Battery Manager

Battery Manager is a power management program that enables using battery power efficiently.

You can easily change the power mode by selecting an optimized power mode and manually optimizing the battery use time by setting each option.

Click on **Start > All Programs > Samsung > Samsung Battery Manager > Samsung Battery Manager.**



- **Maximum Battery Saving Mode** : This mode is appropriate for conditions which require the maximum battery use time. This may degrade the performance of the system.

- **Normal Mode** : This mode is appropriate for normal conditions. Both system performance and battery use time are optimized.
- **Maximum Performance Mode** : This mode is appropriate for conditions that require maximum system performance.Therefore, the battery usage time may be reduced in this mode.
- **Custom Mode** : In this mode, a user can configure a detailed configuration to save the battery usage time. You can adjust the LCD brightness, the system standby time, the screen color quality, and the graphic mode values.

Power Saving Effect

This shows the relative battery use time for each power mode. The more effective the power saving, the longer the graph will appear.

When Running a Game or Multimedia Application

A game or multimedia application may not work smoothly in Maximum Battery Saving Mode. Using this is recommended when the AC adapter is connected or in Normal or higher modes.

Samsung Battery Manager Operating Modes

- Since Maximum Battery Saving Mode of Samsung Battery Manager automatically controls the CPU clock speed to extend the battery usage time, the application execution speed may decrease.
- Changing the Power value for the Custom Mode of Samsung Battery Manager also changes the settings of the Power Options Properties window.
- To use Normal Mode of Samsung Battery Manager after reinstalling Windows XP, you have to reinstall the Samsung Battery Manager program using the system software media.

Turning Off Unnecessary Devices

Turning off unnecessary devices extends the battery use time.

Select the **Start > Control Panel > Performance and Maintenance > System > Hardware** tab and click **Device Manager.** Right-click a device you are not using, and select 'Disable' (e.g. wireless LAN, 1394, etc.)

Battery Calibration

If you charge/discharge the battery repeatedly for only a short time, the battery use time may be reduced by the difference between the actual battery charge and the remaining charge display. In this case, the actual battery charge and the remaining charge display will be same by discharging the battery completely using the Battery Calibration function, and then recharging it again.

1. Disconnect the AC power adapter after turning off the system.
2. Restart your computer and press **<F2>** to enter BIOS setup.
3. Using the arrow keys, highlight Smart Battery Calibration in the Boot menu. The Battery Calibration function is activated and the battery is discharged forcibly. This operation requires 3~5 hours depending on the battery capacity and the remaining battery charge.
4. When the calibration process is complete, recharge the battery fully.

Upgrading Memory

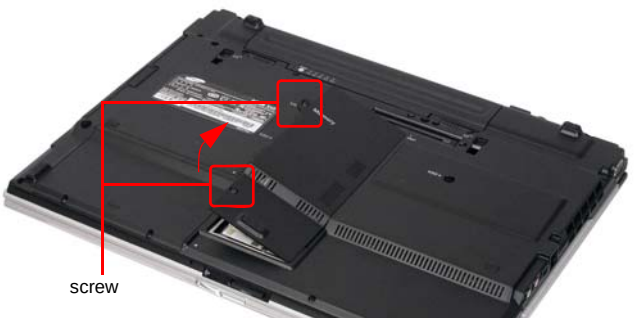
This computer has one or more 256 MB or 512 MB memory module(s). Two memory module sockets are provided so that you can replace memory or install an additional memory module.

Removing the memory module

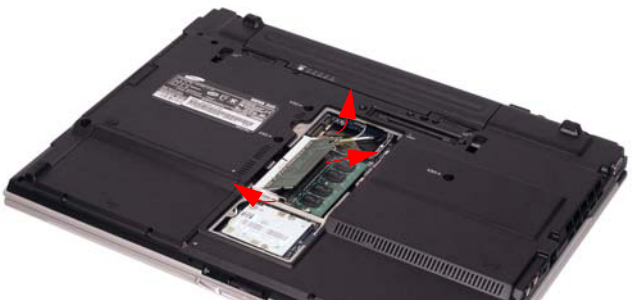
Before removing/replacing the memory module, turn the system off completely and remove the battery. Do not replace the memory module when the system is in Standby/Hibernate mode.

When using memory in dual channel, using memory of the same specification (the same capacity and manufacturer) is recommended.

1. Using a screwdriver, open the memory module compartment cover on the bottom of the computer.



2. Push the memory module tabs outward to pop the memory module upwards. Carefully pull the module out at an angle of about 30°.

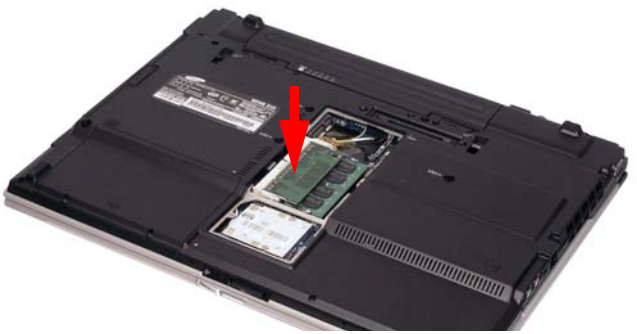


Adding a memory module

1. Align the new memory module connectors accordingly and slide it into the slot at a 30° angle.

Ensure the notch on the memory module corresponds with the notch on the socket.

2. Push the memory module in until the module clicks into place. If the memory module is not fixed completely, gently push the memory down while pressing the memory module tabs outward.



3. Close and fix the memory module compartment cover using a screwdriver.

Using the Security Lock Port

The security lock is a device used to physically 'fix' the system when using it in a public place. The locking device needs to be purchased separately. The shape and methods of use may differ depending on the manufacturer. Please refer to the manual provided with the security lock for proper use.

1. Connect a security lock cable to a fixed object.
2. While holding the security lock port lever to the left, connect the cable to the security lock port.

Any damage to the machine caused by using a locking / security device is not covered under warranty.

Tips for Using Your Computer

The following information helps you avoid potential problems as you use your computer:

Do not try to disassemble your computer. Opening the system chassis voids your warranty. Only an authorised manufacturer service center can replace or add any parts inside the chassis.

- Follow all the instructions and cautions in your computer user documentation.
- The LCD has a polarized surface and can be damaged easily. To prevent damage, avoid touching the screen.
- Use only approved AC adapters, auto adapters, memory modules and other options.
- Because a notebook computer is small and has restricted air flow around components, it is more likely to overheat than a desktop computer. A fan inside your computer runs when needed to help eliminate heat. Make sure the fan vent on the left side of your computer is not blocked when you use the computer. Occasionally check the vents and remove any accumulated dust on the outside.
- Avoid using or storing the computer in extremely hot or cold areas, such as a car on a hot day. Keep the computer away from heaters and out of direct sunlight. Exposure to excessive heat may damage computer components. If you have left your computer in a hot place, let it cool down slowly to room temperature (with the LCD panel open) before using it.
- Do not remove the memory-module compartment door, or try to install a memory module when the computer is on.
- Set up your computer work area to avoid physical strain. Sit with your back straight and supported by your chair. Adjust your chair or work table so that your arms and wrists can remain in a relaxed position, parallel with the floor. Avoid bending or twisting your wrists as you work. Your hands should “float” slightly above the keyboard. Refer to a book on office ergonomics for more information on setting up your work area.
- Take frequent breaks from working at the computer to rest your eyes and stretch your muscles.
- Remember to save your data files frequently and to make backup copies of your files.

- A walkie-talkie must be kept more than 1 meter away from the device. Since a walkie-talkie transmits a very strong signal, it may cause a computer malfunction.

Travelling with Your Computer

Air Travel

If you are travelling by air, follow these tips:

- Take the computer with you as carry-on luggage. Do not check the computer with your baggage.
- Allow the computer and disks to go through the X-ray security devices. Do not hand-carry disks through the walk-through metal detectors, which can cause loss of data.
- Be prepared to turn off the computer during take off and landing.

Please follow the instruction of the corresponding facilities regarding the use of wireless devices (wireless LAN, Bluetooth , etc.) when in a wireless communication restricted area (e.g. airplane, hospital , etc.).

Handling Spills

Do not spill anything on your computer. The best way to avoid spills is to avoid eating and drinking around your computer. If you do spill something on your computer, turn off your computer, unplug it immediately, and do the following:

- If you spill liquid on the keyboard, drain as much of the liquid from the keyboard as possible. Be careful not to let the liquid drip onto the LCD panel. Allow the system to dry for several days before trying to use it.
- If you spill liquid on an external keyboard or keypad, unplug it and drain as much of the liquid as possible. Allow the keyboard to sit at room temperature for a full day before trying to use it.

Sweet liquids leave a sticky residue that may jam the keyboard despite your efforts to dry it.

- If you spill liquid on the LCD panel, clean it immediately with a soft cloth and denatured alcohol or a proprietary LCD screen cleaner. Do not use water, window cleaner, acetone, aromatic solvent, or dry, rough towels to clean it.

Some liquids damage the polarized LCD screen. If your screen is damaged, contact your authorized manufacturer's service center for a replacement.

Storing the Computer for Long Periods

If you will not be using the computer for a long period of time (a month or more), you should discharge the battery completely then remove the battery from the computer. This extends the life of the battery.

Troubleshooting

Complete the following in the order presented until your system is functioning properly. If all of the steps below fail then contact your local reseller for assistance.

Questions and Answers

Please see “Questions and Answers” on page 124 for assistance in correcting any computer operational problems.

Check the Connections

Verify all of the power and peripheral cables are securely plugged into their sockets and that your system and power supply is on.

Norton AntiVirus

Run Norton AntiVirus to ensure a virus is not affecting your computer.

To run Norton AntiVirus proceed as follows:

Click **Start > All Programs > Norton AntiVirus > Norton AntiVirus 2005**.

Samsung Magic Doctor

This is a troubleshooting program provided by Samsung Computer supporting the System Diagnostics and System Recovery functions. The System Diagnostics function enables users to diagnose system problems and the System Recovery function enables the computer to be restored to its initial status. (However, programs installed additionally by users are not restored by the System Recovery function.)

Click **Start > All Programs > Samsung > Samsung Magic Doctor > Samsung Magic Doctor**. (p144)

Windows Help and Support

Run Windows Help and Support to find problem that may be affecting your computer.

To run Windows Help and Support proceed as follows:

Click **Start > Help and Support.**

Frequently Asked Questions

To view FAQ’s on your computer, please visit www.samsungpc.com.

Reinstalling Software

If for some reason your system crashes you may corrupt your HDD, Windows operating system and/or some of your device drivers. If this is the case, use **System Recovery CD** to reinstall **OS** and **System Software Media** to reinstall the corrupt device drivers.

System Recovery Precaution:
Before you start restoring your windows operating system insure you backup all data on your hard drive.
Samsung is NOT responsible for any data loss.

Questions and Answers

This section provides information on possible problems, solutions and other references for system use.

Windows Related

Q1 The system does not shutdown properly.

A When the system does not shutdown normally, press and hold the Power button until the system manually shuts off. If the Power-Saving Mode is configured into the Power button, press and hold for more than 4 seconds to shut the system off. When the system is turned on after such manual shutdown, Scandisk will run to check errors in the system.

Q2 The system freezes during program operation

A1 There is an error with the program currently being used. Press the <Ctrl>, <Alt>, and <Delete> keys simultaneously and click End Task in the [Windows Task Manager] window.

A2 There is an error with the Windows OS. Reboot the system by using the Power button.

Display Related

Q1 The LCD screen is too dark or too bright

A Turn on the LCD backlight or adjust the screen brightness. Press **<Fn>**+**<F5>** to turn on the LCD backlight or press **<Fn>**+< ☼▼ >, **<Fn>**+< ☼▲ > to adjust the screen brightness.

Q2 The screen saver disturbs screen viewing during Media Player or video file operation.

A Unselect Tools > Options > Player > Allow screen saver during playback in the Media Player.

Q3 In DOS mode, changing the full screen DOS mode by pressing <ALT>+<Enter> key displays a broken image for a short period.

A The DOS mode which supports 2 Byte characters such as Korean and Japanese runs in graphic not in text mode. In this case, a broken image may be displayed while changing the video mode settings.

Q4 In the following cases, the screen blinks or displays noise for a short time: (Click on the Graphics Related tab, Change Resolution, Change Display Device, Remove the AC Adapter, Restart the System and then Change the PowerMizer level.)

A This may happen while the video driver is examining the connected device. While detecting, any connected display devices may blink or some noise may occur.

Q5 When I connect a projector, and change the setting to display screen image on both the LCD and the projector by pressing <Fn>+<F4/> keys, screen is not displayed properly.

A Press **<Fn>+<F4 /** > keys once again.

If the same problem continues, it means the projector cannot support the resolution. Lower the resolution to 1024 x 768.

Q6 The playback screen of a DVD title or an MPEG file is only displayed on the LCD.

A Video is displayed on a single display device by default, when both LCD and CRT are selected simultaneously.

1. Right-click over the Desktop and select **Properties** from the pop-up menu.
2. In the [Display Properties] window, select the **Settings** tab **> Advanced > CATALYST Control Center** tab.
3. Click the **ATI CATALYST Control Center** button and run the **CATALYST Control Center**.
4. From the **View** menu, select the **Advanced View** item.
5. Select **Avivo™ Video > Theater Mode** and set the **Clone Mode Overlay Display** item to **Theater Mode (Full Screen)**. You can then view the video on both LCD and CRT.

Q7 After connecting to a TV, some programs such as Debug, Mem, etc. do not run in full screen MS-DOS mode.

A If a TV is used as the display device, some programs such as Debug, Mem, etc. may not run properly in full screen MS-DOS mode. Run the programs in the MS-DOS window.

Q8 The Taskbar on the bottom of the screen does not appear when a projector is used as the display device.

A A This may happen, even though SXGA+ LCD supports the 1400x1050 mode, the projector does not support that mode. In this case change the resolution to 1024x768 (recommended) on your computer.

Q9 When a TV is connected, the Turn off monitor power option is not performed.

A When connecting a TV after booting up your computer, the Turn off monitor power option may not be performed. For it to operate properly, it is recommended to connect a TV and then booting up the computer.

Q10 The shortcut icon does not appear on the screen.

A The shortcut icon appears only when Magic Keyboard and the Samsung Display Manager program are installed.

Q11 I cannot set up Dual View properly. (For Intel Graphics only.)

A This may happen when Clone mode is selected for an external monitor.

Press the **<Fn>**+**<F4>** key combination to select LCD and try to set up Dual View again.

Q12 The screen is rotated, but I cannot return it to the original orientation. (This only applies to Intel graphics cards.)

A This may happen when you have used the screen pivot function or pressed a wrong key while using the computer. For Intel Graphics, press the Ctrl+Alt+Direction Key (↑ : rotate 0 degrees, → : rotate 270 degrees, ↓ : rotate 180 degrees, ← : rotate 90 degrees) to return to the original orientation. For other graphics cards, use the rotation mode of the Advanced menu supported by the corresponding graphics card company.

Q13 While playing a video in the LCD/CRT status, and I change the display screen to Full Screen or move the display screen, black lines appear on the secondary display device.

A Set **Avivo™ Video > Theater Mode > Theater Mode Setting** to **Full Screen** in the **CCI Options**.

Q14 If I run the Catalyst Control Center of the graphics driver, it appears on the screen after some time.

A Since the Catalyst Control Center is developed based on the .Net Framework of Microsoft, some time is required to define the .Net Framework settings when launched for the first time.

Q15 I have connected a TV with a cable that converts S-Video to Composite, but the picture is displayed abnormally on the screen.

A This system supports connecting a TV with an S-Video or Component cable but does not support connecting a TV through a Composite interface with a cable that converts S-Video to Composite.

Q16 If I change the graphics settings using the Display Settings Wizard of the graphics driver, the setting window goes back and hidden.

A This is a problem due to the design of the graphics driver. If a user clicks on the Apply button after setting the graphics settings using the Settings Wizard, the final Finish screen goes back and is hidden.

Q17 The picture is abnormally displayed on the screen when the computer is resumed in Standby mode. (This only applies to Intel graphics cards.)

A This may happen when the CRT is set as the Primary device in the Extended Desktop Settings.

When the CRT is set as Primary and the LCD as Secondary, the picture may be displayed abnormally if the system enters Standby mode, is restarted after disconnecting the CRT and the resolution is changed. It is recommended setting the LCD as the Primary Display Device.

Q18 <Fn>+<F4/> Key combination does not work.

A While displaying video of VCD or MPEG, or the display setting is Dual View, you cannot toggle display devices. Also the installation of NetWare Client 32 program disables the function of <Fn>+<F4/>.

Sound Related

Q1 How to install and uninstall the sound driver

A To install or uninstall the sound driver from this system, please follow the procedures below.

- **Sound Driver Components**

  The sound driver consists of the following 3 components and the 3 components are automatically installed during the installation.

  – **High Definition Audio - KB888111:** Microsoft UAA Bus Driver for High Definition Audio

  – **SoundMAX:** SoundMAX Integrated Digital HD Audio

  – **WOW XT and TSXT Filter Driver:** SRS

- **Uninstalling the Sound Driver**

  To remove the sound driver due to a problem or for an update, follow the procedures below.

  If you do not follow the sequence below, the sound driver may not be removed or the reinstalled driver, or may not work properly.

  ❶ Select **Start > Control Panel > Add or Remove Programs**.

  ❷ Remove **WOW XT and TSXT Filter Driver** first.

  ❸ Remove **SoundMAX** and restart the computer.

Do not remove the **High Definition Audio** item. Removing this item also removes the modem device driver.

If you have removed this item, you need to install the modem device driver again.

- **Reinstalling the Sound Driver**

  If there is an already installed sound driver, uninstall the driver according to the procedures above.

  The sound driver is included on the System Software Media.

❶ Insert the System Software CD-ROM into the CD-ROM drive.

❷ Select the Sound Driver on either Standard Installation or Custom Installation, then the 3 components of the sound driver are automatically installed.

- **Installing the Sound Driver after a Windows XP Reinstallation**

  If you install the sound driver after reinstalling Windows XP, the Add Hardware Wizard (Modem Device) window may appear during the sound driver installation. This happens because the **High Definition Audio - KB888111** Hotfix, which has been installed on your system, has changed the settings to search for both sound and modem devices. If you install the modem device, this message will not appear. If necessary, install the modem device together.

The number of the High Definition Audio - KB888111 Hotfix may differ if you have updated the Hotfix from the Microsoft web site.

Q2 Recording with the built-in microphone

A Since the default setting is set to recording with an external microphone, change the settings to record using the built-in microphone.

1. Double-click the **Volume** icon in the Taskbar.
2. Click on **Options > Properties**.
3. Select **SoundMAX HD Audio O** in the Mixer Device field and select '**MIC**' in the **Show the following volume control** field.
4. When clicking the **OK** button, the **MIC** field appears in the Master Volume.
5. Select **Options > Advanced Controls**.
6. Unselect **Advanced > Microphone Jack** in the **MIC** field of the Master Volume window and click on **Close**.

   You can now record using the built-in microphone.

Q3 Using the additional functions when recording with the built-in microphone

A To record sound at the center of both microphones, set it up as follows.

1. Click on **Start > Control Panel > Sound, Audio and Audio Devices > SoundMAX**.
2. In the **Microphone Peripherals** field, select '**Directional Beam**' and click the **OK** button.

Modem Related

Q1 I cannot hear the modem sound.

A1 Check that the telephone line is properly connected to the modem.

A2 Check that the modem driver is installed properly.

1. Click Start > Control Panel > Performance and Maintenance > System.
2. Select Hardware tab > Device Manager > Modems in the System Properties window, and check if there is a yellow exclamation mark on the installed modem icon. If there is, delete the modem device driver and reinstall the driver, because the yellow exclamation mark represents a not properly installed driver.
3. If there is no yellow exclamation mark, double-click the installed modem, and click Diagnostics tab > Query Modem in the Modem Properties window to diagnose the modem.

   No message in either of Command and Response in the Diagnostics tab means that the modem is not operating properly.

   Diagnose the modem again after restarting the system or reinstalling the driver.

   (You have to exit all programs using modem in the advance of diagnostics of the modem).

Q2 I cannot make a call using an extension line.

A In general, the dial tone of a PBX or a digital phone switching system is not a continuous one, unlike that of a trunk line.

Therefore, the modem may not make a call because the modem mistakes the dial tone from a PBX or a digital phone switching system as a busy tone.

In this case, complete the following procedures.

- Using an AT command

As an initialization command, use the command, ATX3.

Otherwise, enter the ATX3 command manually before making a call.

It can correct this problem by skipping the dial tone check step.

- Configuring the Modem through the Control Panel

1. Click Start > Control Panel > Network and Internet Connections.
2. Under See Also, click Phone and Modem Options.
3. In the Modems tab, select the installed modem, and click Properties.
4. In the Modem tab of the Modem Properties window, clear the 'Wait for dial tone before dialing' check box.

5. When the configuration is completed, click OK.

Q3 How do I use my modem when dialing from overseas?

A1 Check that the modem is correctly configured according to the current country.

Because the values for communication may differ according to the country, you may not be able to connect via the modem due to an incorrect modem configuration.

1. Click Start > Control Panel > Network and Internet Connections.
2. Under See Also, click Phone and Modem Options.
3. In the Dialing Rules tab, click Edit.
4. In the General tab in the Edit Location window, select the current country from the Country/region radio box, specify the Area code, and click OK.

A2 Because the shape of the telephone plug may differ according to the country, you have to purchase and use the appropriate telephone plug for that particular country.

Q4 How do I receive a fax while the system is in power saving mode (Rest mode) ?

A To receive a fax in Standby Mode, you have to set it up as follows.

1. The automatic fax reception function of the fax program needs to be activated. (For more information, refer to the corresponding fax program manual.)
2. Click Start > Control Panel > Network and Internet Connections.
3. Under See Also, click Phone and Modem Options.
4. In the Modems tab, select the installed modem, and click Properties.
5. In the Power Management tab of the Modem Properties window, select the “With this device, exit the computer from stand-by mode” item and then click OK.

   The above setting enables the modem to turn on the system and receive a fax when in power saving mode.

Wired LAN Related

Q1 <Wake On LAN> function

A <Wake On LAN> is a function that activates the system in rest mode when a signal (such as ping or magic packet commands) arrives from network (wired LAN).

To use <Wake On LAN> function:

1. Select My Network Places > View network connections from the Desktop.
2. Click the right button on the touchpad over Local Area Connection, and select Properties.
3. Click Configure, and select Power Management tab. Select 'Allow this device to bring the computer out of standby', then click OK. Restart the system.

- If the system in rest mode is activated when there is no received signal, use the system after disabling <Wake On LAN> function.

- Connecting wired LAN while using wireless LAN may not execute <Wake On LAN> function. Configure wireless LAN to 'Disable' to use <Wake On LAN> function.

1. Click on **My Network Place> View network connections** on the Desktop.
2. Right-click over **Wireless Network Connection** and select **Disable.**

Q2 When I connected 100Mbps wired LAN and the computer exits standby/ hibernate mode, a message informing 10Mbps wired LAN connection appears.

A When the computer exits standby/hibernate mode, restoring the network takes about 3 seconds. When the network is restored, it operates in 100Mbps.

Q3 To network-boot quickly when both the X-Dock and the Wireline LAN port of the system are both connected to the LAN with the LAN cables,

A If LAN cables are connected to both ports, because the LAN cable connection status of X-Dock is checked and the status of the system is checked in sequence, approximately 2 minutes are required.

To boot quickly, press the **<F12>** key, press the **<Esc>** key and select either '**Network Boot from Internal LAN**' or '**Network Boot from Dock LAN**'.

Wireless LAN Related

Q1 I cannot find an AP.

- **Check the Wireless LAN LED.**

A Check if the Wireless LAN LED is on. If off, press the Wireless LAN On/Off button **Wireless LAN Latch** to turn it on.

- **Reinstall the driver.**

A Reinstall the driver using the software media.

- **Check the Wireless Zero Configuration (WZC) service.**

A If the "Windows cannot make this wireless connection" message appears while searching for wireless networks, it indicates that a program other than Windows is set to manage the wireless LAN settings.

- **To use the wireless LAN settings using Windows:**

A ❶ Click **Start > Control Panel > Network and Internet Connections > Network Connections > Wireless LAN Connection**, right-click and check if the "Windows manages wireless network settings (W)" option is selected in the Wireless Network tab of the Properties window. If not, select the option.

❷ Click **Start > Control Panel > Performance and Maintenance > Administrative Tools > Computer Management and click Services and Applications > Services**. In the right pane, double-click the Wireless Zero Configuration and check if the Startup Type is Automatic and the Status is Started.

Q2 I cannot connect to an AP. (The wireless connection is disconnected frequently.)

- **Check the Network Key.**

A Right-click the **Wireless Network Connections icon** from the Taskbar and click on '**View available wireless networks**'. If wireless networks are found, it indicates that the device is operating properly but the network settings may have a problem. Please check the Network Key (Encryption Key) and the AP settings.

- **Check if there is a device nearby using the same frequency band.**

A1 If there is a device nearby using the same frequency band such as another wireless LAN device, wireless video transceiver, microwave oven, plasma bulb, etc., channel interference may occur. If you experience interference from another device, it is recommended changing the AP channel.

A2 When operating in EEE802.11g mode, if there is a IEEE802.11b device operating nearby, you may experience low data rates or even disconnection as it operates in Hybrid mode.

- **Check the authentication type.**

A A connection may be disconnected after a period of time if the "Use IEEE 802.1x network authentication" option is selected when IEEE 802.1x authentication is not being used.

View the properties of the corresponding AP in the Wireless Network Properties. In the Authentication tab, unselect the "Use IEEE 802.1x authentication in this network" option.

For detailed information on the authentication server, ask your network administrator.

- **Check the AP settings.**

A1 Check if the surroundings are appropriate for a wireless LAN. A wireless LAN connection may be limited by the surrounding environment and distance. Obstacles such as walls and door mats affect the quality of the wireless LAN signal. You have to install an AP in a high, open position far away from any other radio signal sources. If the AP is excessively far away, or is installed at the end of a building and you are attempting to use the wireless LAN from the other end, you may not be able to use the wireless communication normally because the signal is blocked by obstacles between you and the AP (such as a wall).

A2 Check if the AP operates properly. If the AP is not operating properly, turn it off and on again and try again.

A3 Check if the AP firmware is the latest version. (For more information on the AP firmware, ask the AP manufacturer or your product provider.)

A4 Check if the AP is properly connected to the network. Connect the LAN cable from the AP to a computer and check if the network is connected properly.

A5 Check the Network Key (Encryption Key) settings again.

If the automatic password converting function (passphrase function) is enabled and the wireless connection is normal but you cannot send data over the connection, please enter the Network Key (Encryption Key) manually.

A6 Check the AP settings as follows.

If there are multiple APs running at the same time, check the channel setting of each AP. If the interval between the channels of the APs is narrow, you may experience electromagnetic interference. Set the channel numbers of the APs so that the internals between the channels are maximized. (E.g., Ch1, Ch5, Ch9, Ch13)

If the SSID option is set to Hide, you will not be able to find the AP on your computer. It is recommended unselecting the Hide option of the AP. SSID (Service Set ID) is a name used to distinguish a wireless LAN from other wireless LANs.

It is recommended using Long Preamble. Preamble is a signal for data transmission synchronization. Although some APs support Short Preamble, there might be a compatibility problem.

Because 'Fixed' channel selection is more stable then 'Auto' channel selection, 'Fixed' channel selection is recommended. It is recommended not using the 'Block Any' and 'Any Connection Block' functions. Although these functions block connections at the client side when the network name is Any or Blank, it may cause a compatibility problem.

For more information on the AP settings, refer to the owner's manual supplied with the AP.

Q3 Although a connection has been established, I cannot connect to the Internet.

- **Check the TCP/IP settings.**

A If you cannot connect to the Internet but you are connected to an AP, check if the TCP/IP settings are configured properly.

When you are not connected to an AP, an X mark appears over the 'Wireless Network Connections' ( ) icon in the Taskbar. If you double-click the icon, the Search for Wireless Connections window appears. Reconnect to a wireless network referring to the descriptions of **Connecting to a Wireless LAN** in the Using the Network section.

When you are connected to an AP, an X mark appears over the 'Wireless Network Connections' ( ) icon in the Taskbar. Double-click the icon and check if the IP address is properly allocated on the Support tab. If the IP address is not properly allocated, the IP address will be displayed as follows; (e.g. 169.254.xxx.xxx).

If your network does not support DHCP, you have to manually configure an IP address by asking your network administrator.

In addition, even if your network supports DHCP, the Internet connection may not be available if the DHCP server fails to allocate an IP address to your computer.

Q4 I have configured both wired and wireless connections with the same IP address, but the network connections do not work properly.

A You cannot use the same IP address for wired and wireless connections. To use only one IP address for both wired and wireless connections, you must disable one of them according to your requirements in Network Connections in the Control Panel.

Q5 After installing the Wireless LAN Setting program, the "AEGIS Protocol (IEEE 802.1x)" protocol appears in the [Local Area Connect Properties] window.

A The protocol is a security authentication protocol that is automatically installed when the Wireless LAN Settings program is installed and does not affect the program operation.

Q6 (For Intel PROSet) Although I have turned the wireless LAN off using the Turn Off Wireless LAN button in PROSet, the Wireless LAN LED is still on.

A This is normal. The Turn Off Wireless LAN button in **PROSet** just turns off the wireless LAN software. The wireless LAN hardware is not affected by this operation.

Q7 (For Intel PROSet) After installing PROSet, I cannot manage my wireless network in Windows.

A When clicking the "Use Microsoft Client" in the Tools menu of the **PROSet**, you can manage wireless network in Windows.

Thereafter, if you wish to manage your wireless network, click the "**Activate Intel PROSet/Wireless**" in the Tools menu of the **PROSet**.

Games and Programs Related

Q1 3D game is not executed, or some functions are not working.

A Change the graphic setting of the game to '2D' or 'Software Renderer', then execute the program again.

Q2 I launched a game right after installing it, and the game is not executed.

A This problem may occur when the game is not compatible with Windows XP. Launch the game again, and it will be executed properly.

Q3 While playing a game, pressing the <Fn>+<F4 />keys does not work or the screen is not properly displayed.

A Some games and 3D application programs may change the display device control. Therefore, pressing the <Fn>+<F4 /> keys may terminate the running program or may display an abnormal screen.

Press the <Fn>+<F4 /> keys before launching a program and do not press them while running the program.

Q4 Running speed of a game is too slow or fast.

A Change the setting of Power Schemes to 'Always On'.
(Click Start > Control Panel > Performance and Maintenance > Power Options > Power Schemes tab, then configure the Power schemes field to 'Always On'.)

Q5 Some part of a game image is not displayed or is displayed in black.

A This may happen when running a game designed for DirectX 8.1, such as NHL 2003, MVP Baseball 2003, etc.

Q6 The game screen is displayed small.

A [ATI Graphics]

This may happen when the display settings are set to zoom out mode ('Use center output'). Change the settings as follows to fit the game screen to the LCD screen.

1. Right-click over the Desktop and select Properties from the pop-up menu.
2. In the [Display Properties] window, select the Settings tab > Advanced > CATALYST Control Center tab.

3. Click the ATI CATALYST Control Center button to run the CATALYST Control Center.
4. From the View menu, select the Advanced View item.
5. Select Notebook Panel Properties > Properties and set the Panel Settings to 'Image Zoom In - Fit to Panel Size' and click the Apply button.

[Intel Graphics]

1. Right-click on the Desktop and select **Properties** from the pop-up menu.
2. In the [Display Properties] window, select the **Settings** tab **> Advanced > Intel Graphics Media Accelerator Driver for Mobile** tab.
3. Select the **Graphic Properties** item, select '**Single Display**' and set the Current Display to '**Notebook**'.
4. Click the **Display Settings** menu, select '**Full Screen**' for the Display Extension and then click the **Apply** button.

Q7 The game play screen frequently stops and starts.

A [Intel Graphics]

This may occur when '**Intel Dual Frequency Graphics Technology**' is selected.

1. Right-click on the Desktop and select **Properties** from the pop-up menu.
2. In the [Display Properties] window, select the **Setting** tab **> Advanced > Intel Graphics Media Accelerator Driver for Mobile** tab.
3. Select the **Graphic Properties** item, select '**Single Display**' and set the Current Display to '**Notebook**'.
4. Click the **Display Settings** menu and the '**Power Settings**'.
5. Unselect '**Intel Dual Frequency Graphics Technology**' and then click the **Apply** button.

Q8 Game play is not displayed smoothly on the screen.

A For 3D games, the texture data for the 3D screen display is saved to the system memory. If there is insufficient system memory, the data is saved to the hard disk drive and loaded to memory when required. This operation may temporarily stop displaying the picture on the screen.

In this case, lower the game resolution or the screen settings. (For Delta Force: Black Hawk Down, Medal of Honor, Battle Field, 1942, etc.)

Q9 If I run a game, a message appears informing me that the game is not supported.

A Since Intel Graphics do not support the H/W T&L function, a game using the H/W T&L function may play abnormally.

Example) SWAT4, Splinter Cell, Armies of Exigo, Brothers In Arms, Medal of Honor Pacific Assault, The Lord of the Rings, Alexander, Enter the Matrix, etc.

Bluetooth

Q1 The characters are broken when I receive a business card with Korean or Chinese characters using the Send Business Card function via Bluetooth.

A1 If a business card with Korean or Chinese characters is sent by selecting the **Select a business card from files (*.vcf, *.vcd)** option in the Send Business Card menu, the characters of the received business card will be broken because the character set of the business card is not set to the Korean or Chinese character set (CHARSET). To resolve this problem, edit the contents of the business card file directly.

❶ Right-click a business card (*.vcf, *.vcd) to be transmitted and select **Connect a program > Select a program**.

❷ Select Notepad from the program list.

❸ Modify the contents of the file as follows.

Example) N:MagicSense => N;**CHARSET=KS_C_5601**:MagicSense

For Korean, add "CHARSET=KS_C_5601".

For Chinese Simplified (CHS), add "CHARSET=gb2312".

For Chinese Traditional (CHT), add "CHARSET=Big5".

A2 When sending a business card directly from the address book of **Microsoft Outlook**, or sending it by selecting the **Select an Outlook business card** option in the Send Business Card menu, you can properly send a business card with Korean or Chinese characters without editing the VCF file.

Q2 I cannot locate or connect the headset.

A1 If the headset is connected to another device and is being used, you will not be able to locate it on your computer and connect to it even if it is found. To resolve this problem, disconnect the headset from the currently connected device and locate it again.

A2 If the headset is connected to the power adapter, it cannot be connected through the Bluetooth connection. In this case, disconnect the headset from the power adapter and try again.

A3 In general, a Bluetooth headset has two operating modes - On/Off mode and Pairing mode. To connect a headset to another Bluetooth device such as a PC or cellphone, it must be in Pairing mode. Switch the headset to Pairing mode and try to locate it again.

In general, a headset automatically switches from Pairing mode to On/Off mode after a predetermined period of time.

Q3 I have connected the headset, but sound is heard intermittently or not at all.

A1 If a Bluetooth headset is connected to a PC, the **Sound playback device** in the **Control Panel** is to be changed to **Bluetooth Audio** (for a mono headset) or **High Quality Bluetooth Audio** (for a stereo headset). If the **Sound playback device** in the **Control Panel** is not changed properly, there may be no sound through the headset. Check the audio settings of the **Control Panel** according to the procedures given below.

Configuring the Audio Device in the Control Panel

❶ Click **Start > Control Panel** and double-click on **Sound and Audio Devices**.

❷ Select the **Audio** tab in the Sound and Audio Devices Properties window.

❸ Check if the Sound playback device and the Sound recording device are set to Bluetooth Audio (for a mono headset) or High Quality Bluetooth Audio (for a stereo headset).

A2 When using a Bluetooth headset with another Bluetooth device, you may experience no sound, data transmission rate degradation, transmission errors or the disconnection of the device. Therefore, it is recommended not using another Bluetooth device when using a Bluetooth headset.

A3 Check if the headset is properly connected and working properly.

A4 Check the volume level of the headset and PC.

A5 When running a multimedia program such as Windows Media Player that accesses the audio device, a headset may not be properly connected or used. To resolve this problem, exit the multimedia program, connect the headset and then launch the multimedia program again.

Security Center

Q1 To change the popup window display settings when connected to the Internet.

In the Windows XP SP2 environment, you can decide whether to display a popup window when connected to the Internet, for user convenience and security.

A1 To display most of the popup windows when connected to the Internet:

1. Click on Internet Options in Start > Control Panel > Security Center > Manage security settings for.
2. In the Privacy tab of Internet Properties, clear Block pop-ups.

A2 To display popup windows only from the current site when connected to the Internet:

Place the cursor on the notification area at the bottom of the Internet address bar and right-click to display a menu, from which you can select Temporarily Allow Pop-ups or Always Allow Pop-ups from This Site.

A3 To display popup windows from a particular site:

1. Click on Internet Options in Start > Control Panel > Security Center > Manage security settings for.
2. In the Privacy tab of Internet Properties, click on Settings from Block pop-ups.
3. Enter a URL to want to allow pop-ups into Address of Web site to allow and click on Add.
4. You will find that the entered address is added to the allowed sites list. The next time you connect to the Web site, you will see pop-ups appearing.

   When you need to re-block a permitted site, select the Web site address that you want to block from the Allowed Sites and click on Remove.

Q2 When you connect to a Web site, you see the message, "To help protect your security, Internet Explorer stopped this site from installing an ActiveX control on your computer" or "This site might require the following ActiveX control" below the address bar.

A Windows XP SP2 blocks unsigned ActiveX controls from being installed when connected to certain Web sites for security reasons. On some Web sites that have no ActiveX controls installed, applications are not started or do not display properly.

In this case, to install ActiveX controls, right-click the notification area to display a menu from which you can select Install ActiveX control.

Q3 When you see a Windows Security Alert icon ( ) appear on the right part of the task bar.

With the Security Center feature added, Windows XP SP2 checks the Firewall, the automatic updates configuration and installation of virus-checking programs to display a Windows Security Alert icon on the right part of the task bar when it judges that the computer is vulnerable to attacks from the Internet. In this case, check the following to install the necessary components.

A1 Set up the Windows Firewall.

When you set up the Windows Firewall, you will be protected from unauthorized access through the Internet or the network.

1. Click on Windows Firewall in Start > Control Panel > Security Center > Manage security settings for.
2. From the General tab of Windows Firewall, select ON (recommended).
3. If you want to allow a certain program or service to gain access to your computer using the Firewall, select and check the program or service that you want to allow access from, in the Exceptions tab of the Windows Firewall. If you want to add a program to Programs and Services, click on Add Program and select it.

A2 Set up Windows Automatic Updates.

This automatically downloads and installs critical updates via the Internet to keep your computer up to date.

1. Click on Automatic Updates in Start > Control Panel > Security Center > Manage security settings for.
2. From general tab of Automatic Updates window, select Automatic (recommended).

A3 Keep your computer current with the latest virus updates. (ex: Norton Antivirus) Even when you have installed Norton AntiVirus on your computer, Windows cannot recognize the program until you configure the settings, displaying a Security Alert icon.

When you first use or install Norton AntiVirus for the first time, follow the Registration Wizard steps to configure the registration settings.

To protect your computer from virus attacks with the latest updates, click on Options to display the Norton AntiVirus Options window. From the left menu of the window, check Run Automatic Protection to select Automatic Protection and check Run LiveUpdate to select LiveUpdate.

A4 Two virus scanning programs on one computer may cause system conflicts. Remove one of the programs from the system.

A5 If Windows does not recognize the existence of an anti-virus program even when it has been installed, your computer could be vulnerable to attacks from the Internet. You should install an anti-virus program that your computer is able to identify.

Check the following programs which Windows can detect and select one from the list.

A list of anti-virus programs that Windows can detect:

-Symantec Norton Anti-Virus

-NetworkAssociates (McAfee)

-TrendMicro

-ComputerAssociates

-Panda

-Kaspersky

-Ahnlabs (AhnLab)

Visit the Microsoft Web site (www.microsoft.com) regularly to check the latest list.

Other

Q1 4GB memory capacity is not properly recognized by Windows.

A Windows XP SP2 and Windows Sever 2003 SP1 Standard Server cannot display memory exceeding 4GB due to license and driver compatibility problem. Even if the memory capacity is displayed as 3GB in your system information, 4GB memory is recognized normally by the system.

Using Samsung Magic Doctor

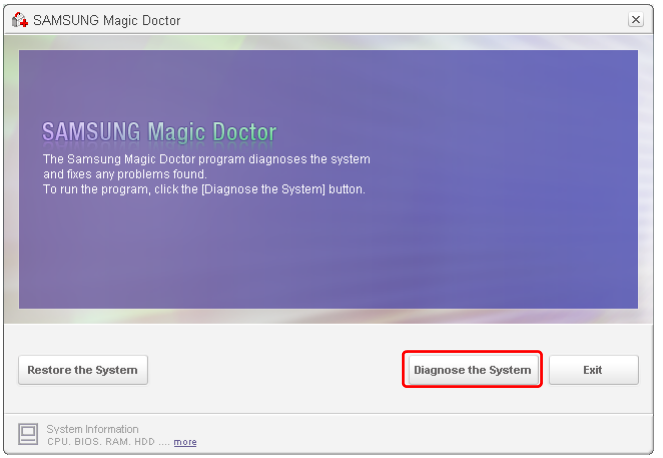
Samsung Magic Doctor is a troubleshooting program provided by Samsung Computer supporting the system diagnostics and remote assistance functions.

Before Starting!
The System Diagnostics function enables users to diagnose the system connection status, any problems affecting system operations and to resolve any located problems.

The Remote Assistance function enables users to resolve computer problems by chatting with a Samsung Computer agent. In addition, the remote diagnostics function enables an agent to connect to your computer remotely, diagnose the problem and find a solution to your problem.

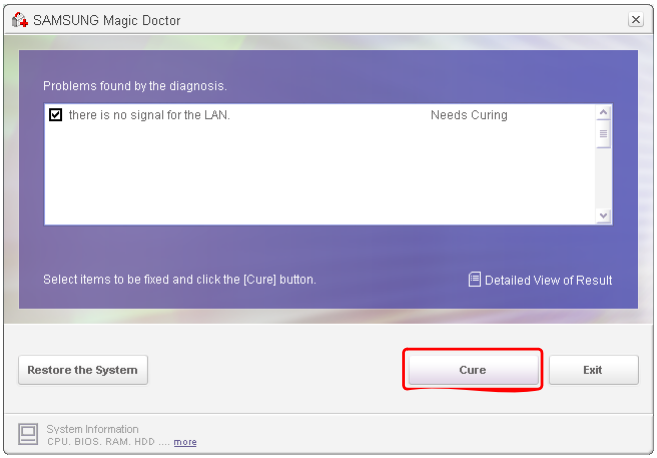
Diagnosing the System

1. Select **Start > All Programs > Samsung > Samsung Magic Doctor > Samsung Magic Doctor**.
2. Click the **Diagnose the System** icon.


SAMSUNG Magic Doctor
SAMSUNG Magic Doctor
The Samsung Magic Doctor program diagnoses the system and fixes any problems found.
To run the program, click the [Diagnose the System] button.
Restore the System
Diagnose the System
Exit
System Information
CPU, BIOS, RAM, HDD .... more

The system status diagnostics start.

3. When the system status diagnostics are complete, the diagnostics result appears.


SAMSUNG Magic Doctor
Problems found by the diagnosis.
there is no signal for the LAN.
Needs Curing
Select items to be fixed and click the [Cure] button.
Detailed View of Result
Restore the System
Cure
Exit
System Information
CPU, BIOS, RAM, HDD .... more

If a problem has been found, click on **Cure** for Samsung Magic Doctor to cure the problem.

Restoring the System

This description is only for models running Window XP.

The System Restore function allows you to restore your computer to an earlier copy (called restore point), and restores the settings if a problem occurs.The System Restore function is provided by Windows XP to enable the resolution of various problems without reinstalling Windows XP completely.

You can use System Restore in the following cases.

- The system files are deleted or damaged by mistake.
- The system is unstable or a problem occurs in a device driver.
- A problem occurs after changing system files such as the registry.
- A problem occurs after installing a new program.

Creating a Restore Point

Restore points are created at predetermined times and at times of significant system events such as when a program or a driver is installed. You can also decide when to create your own restore points.

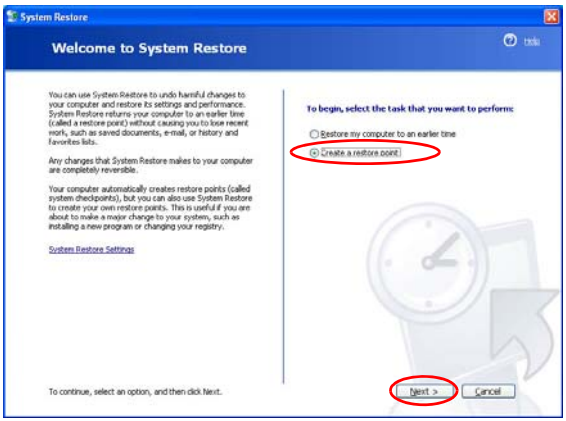
There has to more than 200MB of free space on the hard disk drive. If the disk space is insufficient, a saved restore point might be deleted.

You are recommended to create a restore point when you have purchased a new computer and before installing new programs or device drivers. Before creating a restore point, check that the computer is operating properly.

The procedures to create your own restore point are described below.

1. Click **Start** > **All Programs** > **Accessories** > **System Tools** > **System Restore**.

2. Select "Create a restore point", and click **Next**.


System Restore
Welcome to System Restore
Help
You can use System Restore to undo harmful changes to your computer and restore its settings and performance. System Restore returns your computer to an earlier time (called a restore point) without causing you to lose recent work, such as saved documents, e-mail, or history and favorites lists.
Any changes that System Restore makes to your computer are completely reversible.
Your computer automatically creates restore points (called system checkpoints), but you can also use System Restore to create your own restore points. This is useful if you are about to make a major change to your system, such as installing a new program or changing your registry.
System Restore Settings
To continue, select an option, and then click Next.
To begin, select the task that you want to perform:
Restore my computer to an earlier time
Create a restore point
Next >
Cancel

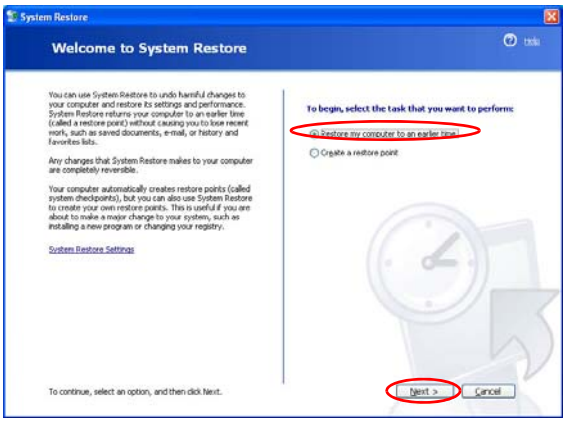
Since changes made after the Recovery Point may not be maintained, please back-up all necessary files to another location before performing system recovery.

3. In the Restore point description box, type a name to identify the restore point, and than click **Create**. A restore point has been created.

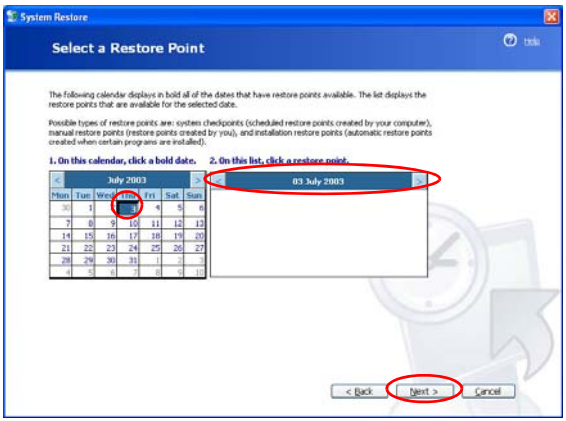
Returning your computer to an earlier restore point

The procedures to return your computer to an earlier restore point when a problem has occurred are described below.

1. Click **Start** > **All Programs** > **Accessories** > **System Tools** > **System Restore**.
2. Select "Restore my computer to an earlier time", and then click **Next**.


System Restore
Welcome to System Restore
You can use System Restore to undo harmful changes to your computer and restore its settings and performance. System Restore returns your computer to an earlier time (called a restore point) without causing you to lose recent work, such as saved documents, e-mail, or history and favorites lists.
Any changes that System Restore makes to your computer are completely reversible.
Your computer automatically creates restore points (called system checkpoints), but you can also use System Restore to create your own restore points. This is useful if you are about to make a major change to your system, such as installing a new program or changing your registry.
System Restore Settings
To begin, select the task that you want to perform:
Restore my computer to an earlier time
Create a restore point
To continue, select an option, and then click Next.
Next >
Cancel

3. Select the desired restore date from the calendar restoration and select the desired restore point from the list, and then click **Next**.


System Restore
Select a Restore Point
The following calendar displays in bold all of the dates that have restore points available. The list displays the restore points that are available for the selected date.
Possible types of restore points are: system checkpoints (scheduled restore points created by your computer), manual restore points (restore points created by you), and installation restore points (automatic restore points created when certain programs are installed).
1. On this calendar, click a bold date.
2. On this list, click a restore point.
July 2003
Mon Tue Wed Thu Fri Sat Sun
03 July 2003
< Back
Next >
Cancel

The date of the restore point is displayed in bold font.

4. Confirm the selected restore point and click **Next**. System Restore shuts down Windows, and starts the restoration processes.
5. After the restoration is complete, Windows restarts. In the [System Restore completed] dialog, click **OK**.Your computer has been restored to the selected restore point.

Undoing the last restoration

The procedures to undo a restoration are described below.

1. Click **Start > All Programs > Accessories > System Tools > System Restore**.
2. Select "Undo my last restoration", and then click **Next**.
3. Confirm the restoration information to undo, and than click **Next**. System Restore shuts down Windows and starts undoing the restoration.
4. After the undo restoration is complete, Windows restarts. In the [Undo the last restoration completed] dialog, click **OK**.Your computer has been restored to the point prior to the last restoration.

Reinstalling Software

If you have reinstalled the Windows operating system, or the system and program do not operate properly, you can re-install the driver and program using the system software Media.

This computer is optimized for Microsoft Windows XP, therefore drivers for other operating systems are not included on the System Software Media.

Running the system software Media

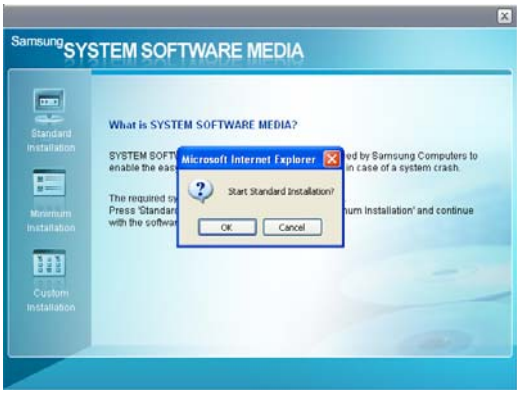
Insert the system software Media into the CD-ROM drive. The initial screen appears automatically.

Samsung SYSTEM SOFTWARE MEDIA
Standard Installation
Minimum Installation
Custom Installation
What is SYSTEM SOFTWARE MEDIA?
SYSTEM SOFTWARE Media is a CD/DVD that is provided by Samsung Computers to enable the easy re-installation of drivers and software in case of a system crash.
The required system software is not installed properly.
Press 'Standard Installation' (recommended) or 'Minimum Installation' and continue with the software installation

- **Standard Installation**: This displays a list of drivers or programs that are not currently installed on your computer from the system software Media provided. All necessary components are installed using the factory defaults.
- **Minimum Installation**: This displays the components (driver, Windows programs, etc) that, if not installed, may cause problems with the system performance. You can install only required components.
- **Custom Installation**: You can customize the installation of drivers and programs.

Installing drivers and programs

1. Click **Standard Installation** in the main window of the System Software Media. (Standard Installation is recommended)
2. The system is scanned to display the drivers and programs that need to be installed.
3. Click **OK**. The drivers and programs are automatically installed as factory defaults.



4. When done, restart the system.

Reinstalling Windows XP

If the Windows XP does not operate properly due to an error in the system, or if you have replaced the hard disk drive, you can reinstall Windows XP using the system recovery CD.

The System Recovery CD (or media) may not be supplied depending on the model. In this case, use the Samsung Recovery Solution to restore the system.

With the system recovery CD, you can reinstall Windows XP only. To return the system to the state of shipment, reinstall the device drivers and programs with the system software Media after reinstalling Windows XP with the system recovery CD.

Reinstalling Window may delete the data on the hard disk drive such as files, programs, etc. In order to minimize damage from data loss, please remember to always back up data. Samsung Electronics is not liable in the case of data loss, please consult your warranty statement for clarification.

When you have set a booting password
You are asked to enter your booting password after restarting the system during the Windows installation. Enter the password to continue to the next steps.

For Information on Windows XP Media Center Edition

- If the operating system is the Windows XP Media Center Edition VIIV model, the System Recovery media does not support reinstalling Windows. For the operating system installation procedures for the VIIV model, refer to the descriptions of "If You Cannot Run Windows" (p155). (To find out whether your computer is a VIIV model, locate the Intel VIIV label on the front of the computer.)

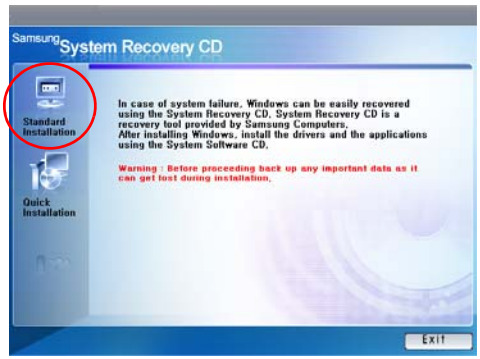
- There are two types of Windows Installation, a **Standard Installation**, which allows custom installation settings, and a **Quick Installation**, which allows convenient, automatic installation. However, a Quick Installation is not available for the Windows XP Media Center Edition.

- The Windows Quick installation procedures are described below. However, a Quick Installation is not provided for the Windows XP Media Center Edition.

Reinstalling Windows

Explain Standard installation option as a standard.

1. Insert the system recovery CD into the CD-ROM drive.
2. In the initial screen, click **Standard Installation**.


Samsung
System Recovery CD
Standard Installation
Quick Installation
In case of system failure, Windows can be easily recovered using the System Recovery CD. System Recovery CD is a recovery tool provided by Samsung Computers.
After installing Windows, install the drivers and the applications using the System Software CD.
Warning : Before proceeding back up any important data as it can get lost during installation.
Exit

The startup screen may differ depending on your operating system.

- **Standard installation**: You can change the settings for partitioning, the installation folder, etc. during the Windows installation. However, reinstalling Windows may delete the data on the hard disk drive such as files, programs, etc. In order to minimize damage from data loss, please remember to always back up data.
- **Quick Installation**: This re-installs Windows with the user data and the system configuration intact. The user data in the already existing Windows folders may be preserved as the existing Windows folders are overwritten.

3. The description for the standard installation appears. Click **Yes**.

   The installation starts, and the system will be restarted after a while.

When Quick Installation is selected,
Setup proceeds with Step 3 before automatically installing Windows. Quick Installation overwrites the existing Windows version, so that drivers or applications do not need to be reinstalled.

4. After the system has restarted, the message 'Press any key to boot from CD' appears. Do not press any key at this time. After a while the partition configuration screen appears.

   To not change the partition, press <**Enter**>.

What is partition configuration?
Partition configuration is a function that devides the hard disk drive into one or several partitions. Note that changing the partition deletes all of the data on the hard disk drive.

5. Select the folder to install the Windows operating system.
   To delete the previous version of Windows and install in the current folder, press **<L>** on the keyboard.

If you press ESC to select another folder for the installation, new Windows folders are created causing a risk of dual booting.

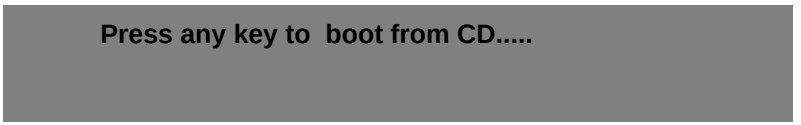
6. After the installation process copies the necessary folders for the Windows installation, restart the system, and the message “Press any key to boot from CD” is displayed. You do not need to enter anything. In a moment, the Windows XP installation screen will appear to proceed with the installation.
7. When **the Regional and Language Options** window appears, click **Next**.
8. When a window that requires your name and organization pops up, enter your name and the organization and click **Next**.
   In the Windows XP Professional edition, an additional window that requires the computer name and the administrator password appears.
   Enter **the computer name and the administrator password** and click **Next**.
9. When **the Date and Time Settings** window appears, click **Next**.
   Setup will continue.
10. When the system restarts to display Press any key to boot from CD, do not press any key.

When you see the Windows desktop, this means that the installation process is completed. Remove the system recovery CD and install **the device drivers and applications** from **the system software Media**.

If You Cannot Run Windows

If you cannot run Windows, you have to boot the system with the system recovery CD, and reinstall Windows. If you boot the system from the system recovery CD, you can install Windows only with the user installation option. You cannot install with the standard installation option.

1. Insert the system recovery CD into the CD-ROM drive and start the computer.
2. If the following message appears on the screen, press any key from the keyboard.



This message appears only when the CD drive has booting priority. If the message does not appear, configure the CD drive as the first booting device referring to "Changing Booting Priority" on page 99.

3. Do not press any key at this time. After a while the partition configuration screen appears.
   To not change the partition, press <**Enter**>.
4. Select the desired file system (format).
   To maintain the current file system, press <**Enter**>.
5. Select the folder to install the Windows operating system.
   To delete the previous version of Windows and install in the current folder, press <**L**> on the keyboard.
6. After the installation process copies the necessary folders for the Windows installation, restart the system, and the message “Press any key to boot from CD” is displayed. You do not need to enter anything. In a moment, the Windows XP installation screen will appear to proceed with the installation.
7. Follow the instructions of the Windows XP installation wizard to continue with the installation.
8. When the installation is complete, the computer will restart.
   When the system has restarted, the Press any key to boot from CD message appears. Ignore the message.

The system boots and the Windows and Windows Registration screen appears. Register Windows, following the instructions to finish the Windows installation. Remove the System Recovery CD and install the **device drivers** and **application programs** using **Standard Installation** from the **System Software Media**.

Specifications

System Specification

The system specifications will be described below. The system specifications may differ depending on the derived models.

Item	Specification	Remarks
CPU	Intel Core ™ 2 Duo Processor	
Cache memory	2MB / 4MB	Optional
Main memory	256MB / 512MB, Max 4GB Memory type : DDR2 SODIMM	Optional
Main Chipset	Intel 945PM / 945GM , ICH7-M / ICH7-M DH	Optional
Hard disk drive (HDD)	9.5mmH 2.5" HDD 40GB / 60GB / 80GB / 100GB / 120GB	Optional
CD drive	RW-Combo, DVD Super Multi, Super Multi Lightscibe	Optional
Graphics	ATI Mobility Radeon X1700 / X1450 (64MB / 128MB / 256MB)	Optional
Sound	High Definition Audio Codec AD1986A	
Network Interface	Modem: V.92 Wired LAN: Intel i82573L 1G Wireless LAN: 802.11ABG Bluetooth 2.0+EDR	 Optional Optional Optional
Multi Card Slot	Memory Stick, Memory Stick Pro, SD Card, MMC, xD card Supported	
PCMCIA Card Slot	PCMCIA Type I and II Compatible	
Ports	IEEE 1394 (4 Pin), USB2.0 x 3, Microphone, Headphone (S/PDIF supported), Modem (RJ-11), LAN (RJ-45), Monitor and TV Out (S-Video), DC Jack, Security Lock Port, 120 Pin Dock Port	Optional
Buttons	AVS Button, Volume Control Button	
Optional	Remote Control, Remote Control Sensor, TPM, Dock	
Dimensions (mm)	361 x 265 x 23.9 mm	W x D x H
LCD	15.4" WXGA(1280 x 800), 15.4" WXGA+(1440 X 900), 15.4" WSXGA+(1680 x 1050)	Optional
Weight	2.48Kg	
Battery	Lithium-Ion smart battery: 6 Cells	
Operation Environment	Temperature (storage) : -5 ~ 40°C (operation) : 10 ~ 32° C Humidity (storage) : 5% ~ 90% (operation) : 20% ~ 80%	
Operation Voltage	100 - 240 VAC	
Frequency	50 - 60 Hz	
Output Power	90W	
Output Voltage	19.0VDC	

The system specifications are subject to change without notice. For detailed system specifications, refer to the product catalog.
The capacity of the hard disk drive with Samsung Recovery Solution will be displayed as less than the specified capacity.

Wireless LAN Specification (Optional)

Intel(R) PRO/Wireless 3945ABG Network Connection

Product Specification

Item		Detailed Specifications
Physical Specifications	Dimensions	(Width X Height) 30.0 x 50.95 mm
	operation temperature and humidity	Same as system operation
		Temperature: 0°C ~ 70°C Humidity: less than 85%
Power Specification	Power Saving Mode	70 mW
	Receiving Mode	0.95 W
	Transmission Mode	1.4 W
	Power	3.3V
Network Specifications	Compatibility	IEEE802.11a, IEEE802.11b, IEEE802.11g
	Operating System	Microsoft Windows XP - NDIS5 Miniport Driver
	Media Access Protocol	CSMA/CA (Collision Avoidance) with Acknowledgement(ACK)
	Security	Wired Equivalent Privacy support (WEP) 64bit / 128bit WPA*, CCX*

* This piece of equipment supports the Wi-Fi wireless LAN security standard, WPA (Wi-Fi Protected Access) and CCX (Cisco Compatible eXtensions). To connect to a wireless network consisting of the WPA and CCX, certificates or PROSet may be required depending on the network settings. For driver update, visit www.samsung.com and for information on the PROSet installation, refer to "Wireless Network Setup Using the Wireless LAN Setup Program" (p73). For more information, ask your network administrator.

Radio Specifications

RF Band	2.4GHz, 5GHz
Support Channels	Channels allowed per country.
Device	Transceiver
Standard Output Power	5 mW
Transmission Method	11a mode: OFDM 11b mode: DSSS 11g mode: OFDM
Transmission Rate (Mbps) *	11a mode** 11b mode: 11, 5.5, 2, and 1 11g mode*** : 54, 48, 36, 24, 18, 12, 9, and 6
Antenna Type	Internal Antenna 2 EA (Main/Aux)

* The transmission rate may differ from the actual transmission rate.
** 11a mode is supported only when the device is connected with an IEEE802.11a device (e.g. IEEE802.11a compatible Access Point).
***11g mode is supported only when you are connected to an IEEE 802.11g device (e.g. An Access Point supporting IEEE 802.11g).

Abbreviations

A . . . . . Amperes
AC . . . . . Alternating current
ACPI . . . . . Advanced Configuration and Power management Interface
APM . . . . . Advanced Power Management
ATA. . . . . AT attachment (refers to the hard-drive interface in an AT-compatible computer)
ATAPI. . . . . AT attachment packet interface
BBS . . . . . Bulletin board system
BIOS . . . . . Basic input/output system
C . . . . . Centigrade
CD . . . . . Compact disc
CD-ROM . . Compact disc read-only memory
cm . . . . . Centimeters
COM . . . . . Communication (as in communication port)
CMOS . . . . . Complementary metal-oxide semiconductor
DC . . . . . Direct current
DMA . . . . . Direct memory access
DPMS . . . . . Display power-management signaling
DRAM. . . . . Dynamic random access memory
DSTN . . . . . Double layer super twist nematic
ECP . . . . . Extended capabilities port
EPP . . . . . Enhanced parallel port
g. . . . . gram
G . . . . . Gravity
GB . . . . . Gigabytes
hr . . . . . hour
Hz . . . . . Hertz
IDE . . . . . Integrated drive electronics
I/O . . . . . Input/output
IRQ . . . . . Interrupt request line

ISA . . . . . Industry Standard Architecture
KB . . . . . Kilobytes
kg. . . . . Kilograms
LAN. . . . . Local-area network
lb.. . . . . Pounds
LBA. . . . . Logical block addressing
LCD. . . . . Liquid-crystal display
m . . . . . Meters
mA. . . . . Milliampere
mAhr. . . . . Milliampere hour
MB. . . . . Megabyte
mm . . . . . millimeter
MPEG . . . . . Motion Picture Experts Group
MPU . . . . . Microprocessor unit
ms . . . . . Millisecond
PDF . . . . . Portable document format
PC . . . . . Personal computer
PCI . . . . . Peripheral component interconnect
PCMCIA. . . Personal Computer Memory Card International Association
POST. . . . . Power-on self-test
PNP . . . . . Plug and play
PS/2 . . . . . Personal System/2
RAM . . . . . Random-access memory
ROM . . . . . Read-only memory
SVGA . . . . . Super video graphics array
TFT . . . . . Thin-film transistor
USB . . . . . Universal serial bus
V . . . . . Volt
VAC . . . . . Voltage alternating current
VCC . . . . . Voltage collector current
VDC . . . . . Voltage direct current
whr . . . . . Watt hour

Glossary

AC adapter

The AC (or alternating current) adapter regulates current coming into your computer from the wall outlet. The current at the wall outlet is alternating current and needs to be changed by the adapter to DC (direct current) before your computer can use it for power.

ACPI

ACPI (Advanced Configuration and Power Interface)- a method for describing hardware interfaces in terms abstract enough to allow flexible and innovative hardware implementations and concrete enough to allow shrink-wrap OS code to use such hardware interfaces.

BIOS

BIOS stands for basic input/output system. The BIOS is software (often called firmware) that is independent of any operating system. It enables the computer to communicate with the screen, keyboard, and other peripheral devices without using programs on the hard disk.

The BIOS on your computer is flash BIOS, which means that it has been recorded on a flash memory chip that can be updated if needed.

Boot

To start your computer. A cold boot resets the entire computer and runs through all computer self-tests. A warm boot clears out computer memory only.

Boot disk

A disk containing operating system programs required to start your computer. A boot disk can be a floppy disk, hard drive, or compact disc.

Byte

The basic unit of measure for computer memory. A character-such as a letter of the alphabet—uses one byte of memory. Computer memory is often measured in kilobytes (1,024 bytes) or megabytes (1,048,576 bytes).

Each byte is made up of eight bits. For more information on bytes and bits, see an introductory book on computers.

Cache memory

Cache is very fast, zero-wait-state memory located between the microprocessor and main memory. Cache reduces the average time required by the microprocessor to get the data it needs from the main memory by storing recently accessed data in the cache.

CardBus

CardBus technology enables the computer to use 32-bit PC Cards. Hardware in the computer and the Windows operating system provide support for the 32-bit cards. The voltage of 32-bit cards (3.3 volts) is lower than that of 16-bit cards (5 volts). The 32-bit cards can transmit more data at a time than the 16-bit cards, thus increasing their speed.

CMOS memory

CMOS (complementary metal oxide semiconductor) memory is powered by the CMOS battery. The System Setup settings and other parameters are maintained in CMOS memory. Even when you turn your computer off, the information in CMOS memory is saved.

COM port

COM stands for communication. COM ports are the serial ports in your computer.

Compact Disc

A compact disc (CD).

Conventional memory

The first 640 KB of system memory. Operating systems and application programs can directly access this memory without using memory-management software.

Disk

The device used by the computer to store and retrieve information. *Disk* can refer to a floppy disk, hard disk, or RAM disk.

Disk cache

A software device that accumulates copies of recently used disk sectors in RAM. The application program can then read these copies without accessing the disk. This, in turn, speeds up the performance of the application.

A cache is a buffer for transferring disk sectors in and out of RAM. Data stored in a disk cache is a copy of data already stored on the physical disk.

DMA (direct memory access)

A method of transferring data from a device to memory without having the data pass through the microprocessor. Using DMA can speed up system performance.

DPMS

Display Power Management Signalling. Displays or monitors that comply with this can be managed by the Power Management features found in the system setup.

Floppy disk

A removable disk, also called *floppy* or *diskette*.

Hard drive

Also called *fixed* disk. A hard drive is connected to the computer and can be installed or removed. Data written to a hard drive remains until it is overwritten or corrupted.

The 2.5-inch hard drive in your computer was designed for use in a notebook computer. Because hard drives in notebook computers are smaller than those in desktop computers, their maximum storage capacity may be less than that of desktop hard drives. However, because of their smaller size, the drives handle shock and vibration better than larger drives, which is important for a notebook computer.

I/O

Input/output. Refers to peripheral devices, such as printers, that are addressed through an I/O address.

I/O address

I/O stands for input/output. Peripheral devices, such as printers, are addressed through the I/O port address.

IRQ (interrupt request line)

The IRQ is a hardware line that a device uses to signal the microprocessor when the device needs the microprocessor’s services. The number of IRQs is limited by industry standards.

LCD (liquid-crystal display)

The LCD screen on your computer differs from the display screen of a desktop monitor. Most desktop monitors use CRT (cathode-ray tube) displays, which work by moving an electron beam across phosphor dots on the back of the screen. The phosphor dots light up to show the image. LCDs use a liquid-crystal solution between two sheets of polarizing material. Electric current passing through the liquid aligns the crystals so that light can or cannot pass through them, creating an image.

MB (megabyte)

1,024 kilobytes.

Megabit

1,048,576 bits or about 128 kilobytes.

Operating system

A program that supervises the computer's operation, including handling I/O. Application programs and users can request operating-system services. A user might request operation-system services to copy files or format a disk. An application program might use the operating system to obtain keyboard input, write data to a file, or write data to a screen.

PC Card

PC Card stands for personal computer card. The Personal Computer Memory Card International Association (PCMCIA) defines the standards used to develop all PC Cards. PC Card types include: modems, Ethernet adapters, SCSI adapters, ATA cards, and memory cards.

PC slot

The PC slot is the hardware slot in the computer where the PC Card is placed.

Pixel

A pixel is an individual dot in a graphic displayed on your computer. The pixels are so close together that they look as though they are connected. An LCD screen displays thousands or millions of pixels.

Plug and Play

A plug and play operating system automatically configures computer components to work with your system. With this type of operating system, you normally do not need to set jumpers on devices or set memory addresses or IRQs.

RAM (random access memory)

The computer's system memory, including conventional and extended memory. You can write to and read from RAM. Information stored in RAM is temporary, and is erased when the system is turned off.

Refresh rate

The refresh rate is the rate at which the image on the LCD screen is rewritten to the screen. A fast refresh rate helps keep the image from flickering.

Resolution

The resolution is the sharpness or clarity of the image on your LCD screen. Resolution is measured by the number of pixels the computer’s screen can display. For example, a resolution of 800 x 600 means that the screen can display 800 pixels in row and can display 600 rows. The more pixels displayed, the higher the resolution and the better the image.

ROM (read-only memory)

Permanent computer memory dedicated to a particular function. For example, the instructions for starting the computer when you first turn on power are contained in ROM. You cannot write to ROM. (ROM is not the same as RAM).

Sector

Also known as *disk sector*. The portion of a track that is numbered and can hold a specified number of characters (usually 512 KB).

Shadow RAM

A write-protected area of RAM that contains a copy of the BIOS. As the computer boots, the BIOS is copied from its permanent location in ROM to RAM. The BIOS can be executed much faster in RAM than in ROM. The BIOS remains in shadow RAM until you turn off the computer.

TFT (thin film transistor) LCD

A TFT LCD uses a separate transistor circuit to control each pixel. This technology provides the best resolution for an LCD screen. A TFT LCD is also sometimes called an active matrix LCD.

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